CS401
Computer Architecture and Assembly language Programming

Important mcqs

Lec 1 - Basic Computer Architecture

1. **Which of the following is responsible for fetching instructions from memory and executing them?**
   a) ALU
   b) Control Unit
   c) Input Unit
   d) Output Unit
   Solution: b) Control Unit

   Which component of a CPU stores the results of arithmetic and logical operations?
   a) Cache Memory
   b) Control Unit
   c) ALU
   d) Registers
   Solution: d) Registers

   Which type of memory can be read from and written to?
   a) ROM
   b) RAM
   c) Cache Memory
   d) Virtual Memory
   Solution: b) RAM

   What is the purpose of the system clock in a computer system?
   a) To synchronize the execution of instructions
   b) To store data
   c) To display the time
   d) To provide power to the system
   Solution: a) To synchronize the execution of instructions

   Which component is responsible for communicating with input and output devices?
   a) ALU
   b) Control Unit
   c) Input Unit
   d) Output Unit
   Solution: c) Input Unit

   Which component is responsible for performing arithmetic and logical operations?
   a) Control Unit

b) ALU
c) Input Unit
d) Output Unit
Solution: b) ALU

Which of the following is a type of secondary storage device?
a) Hard Disk Drive
b) Cache Memory
c) RAM
d) Registers
Solution: a) Hard Disk Drive

Which type of memory is non-volatile?
a) ROM
b) RAM
c) Cache Memory
d) Virtual Memory
Solution: a) ROM

Which component of a CPU controls the flow of data between the CPU and memory?
a) ALU
b) Control Unit
c) Input Unit
d) Output Unit
Solution: b) Control Unit

Which of the following is a type of primary memory?
a) Hard Disk Drive
b) Optical Disk Drive
c) Flash Drive
d) RAM
Solution: d) RAM

Lec 2 - Data Declaration

1. **Which keyword is used to declare a variable in C language?**
   a. int
   b. float
   c. char
   d. all of the above
   Answer: d. all of the above

   Which keyword is used to declare a constant in C language?
   a. var
   b. const
   c. let
   d. final
   Answer: b. const

   Which data type is used to represent characters in C language?
   a. char
   b. int
   c. float
   d. double
   Answer: a. char

   Which data type is used to represent decimal numbers in C language?
   a. char
   b. int
   c. float
   d. double
   Answer: c. float

   Which data type is used to represent Boolean values in C language?
   a. bool
   b. int
   c. char
   d. float
   Answer: C. bool

   Which keyword is used to define a pointer variable in C language?
   a. *
   b. &
   c. $
   d. #
   Answer: a. *

   Which keyword is used to define an array in C language?
   a. array
   b. list
   c. table
   d. none of the above
   Answer: d. none of the above

   Which data type is used to represent whole numbers in C language?
   a. char

b. int
c. float
d. double
Answer: b. int

Which keyword is used to declare a variable as a constant pointer in C language?
a. const
b. static
c. volatile
d. extern
Answer: a. const

Which data type is used to represent large numbers in C language?
a. char
b. int
c. long
d. double
Answer: c. long

Lec 3 - Comparison and Conditions

1. **Which operator is used to check for equality in programming languages?**
   a) =
   b) ==
   c) ===
   d) !=
   Answer: b) ==

   Which of the following is a relational operator?
   a) !
   b) ||
   c) &&
   d) >
   Answer: d) >

   What is the result of the following comparison in Python: 5 > 3?
   a) True
   b) False
   c) Syntax Error
   d) None of the above
   Answer: a) True

   Which of the following is not a logical operator?
   a) !
   b) ||
   c) <=
   d) &&
   Answer: c) <=

   What is the output of the following code:
   arduino
   Copy code
   ```
   int a = 5;
   if (a < 10) {
     printf("a is less than 10");
   }
   ```
   a) a is less than 10
   b) a is greater than 10
   c) a is equal to 10
   d) Compilation Error

   Answer: a) a is less than 10

   What is the output of the following code:
   css
   Copy code
   ```
   int a = 10;
   if (a > 5 && a < 15) {
     printf("a is between 5 and 15");
   ```

}
a) a is between 5 and 15
b) a is less than 5
c) a is greater than 15
d) Compilation Error

Answer: a) a is between 5 and 15

Which of the following control structures is used to execute code based on multiple conditions?
a) if-else
b) switch-case
c) while
d) for
Answer: b) switch-case

Which of the following is the correct syntax for an if-else statement in C?
a) if (condition) {
// code block
} else {
// code block
}
b) if (condition)
// code block
else
// code block
c) if (condition)
// code block
else {
// code block
}
d) if (condition) {
// code block
} else
// code block
Answer: a) if (condition) {
// code block
} else {
// code block
}

What is the output of the following code:
css
Copy code
```
int a = 5;
int b = 3;
if (a > b) {
   printf("a is greater than b");
} else {
   printf("a is less than or equal to b");
}
```

a) a is greater than b
b) a is less than or equal to b
c) a is equal to b
d) Compilation Error

Answer: a) a is greater than b

Which of the following operators is used to check for inequality?
a) !
b) ==
c) !=
d) <>
Answer: c) !=

Lec 4 - Multiplication Algorithm

1. **Which multiplication algorithm uses a grid-like structure to multiply two numbers?**
   A. Traditional method
   B. Lattice multiplication
   C. Egyptian multiplication
   D. Russian peasant multiplication
   Answer: B

   Which multiplication algorithm is also known as the "double-and-add" method?
   A. Traditional method
   B. Egyptian multiplication
   C. Russian peasant multiplication
   D. None of the above
   Answer: C

   Which multiplication algorithm is based on repeated addition and subtraction?
   A. Traditional method
   B. Lattice multiplication
   C. Egyptian multiplication
   D. None of the above
   Answer: A

   Which multiplication algorithm is used in binary multiplication?
   A. Traditional method
   B. Lattice multiplication
   C. Egyptian multiplication
   D. Russian peasant multiplication
   Answer: D

   Which multiplication algorithm is used to multiply large numbers in cryptography?
   A. Traditional method
   B. Lattice multiplication
   C. Egyptian multiplication
   D. Karatsuba algorithm
   Answer: D

   Which multiplication algorithm is also known as the "Box Method"?
   A. Traditional method
   B. Lattice multiplication
   C. Egyptian multiplication
   D. Russian peasant multiplication
   Answer: A

   Which multiplication algorithm uses a series of doublings and halvings to perform multiplication?
   A. Traditional method
   B. Lattice multiplication
   C. Egyptian multiplication
   D. Russian peasant multiplication
   Answer: D

   Which multiplication algorithm is commonly used in digital signal processing?
   A. Traditional method

B. Lattice multiplication
C. Karatsuba algorithm
D. None of the above
Answer: B

Which multiplication algorithm is used to multiply complex numbers?
A. Traditional method
B. Lattice multiplication
C. Egyptian multiplication
D. None of the above
Answer: A

Which multiplication algorithm is based on the distributive property of multiplication?
A. Traditional method
B. Lattice multiplication
C. Egyptian multiplication
D. None of the above
Answer: C

Lec 5 - Program Flow

1. **Which of the following control structures is used to execute a block of code repeatedly until a specific condition is met?**
   A) if-else statement
   B) switch statement
   C) for loop
   D) while loop
   Answer: D) while loop

   Which of the following statements is used to transfer control to a different part of the program?
   A) if statement
   B) switch statement
   C) break statement
   D) continue statement
   Answer: C) break statement

   Which of the following control structures is used to execute a block of code repeatedly for a specific number of times?
   A) if-else statement
   B) switch statement
   C) for loop
   D) while loop
   Answer: C) for loop

   Which of the following control structures is used to execute a block of code based on the evaluation of a Boolean expression?
   A) if-else statement
   B) switch statement
   C) for loop
   D) while loop
   Answer: A) if-else statement

   Which of the following statements is used to terminate the current iteration of a loop and continue with the next iteration?
   A) if statement
   B) switch statement
   C) break statement
   D) continue statement
   Answer: D) continue statement

   Which of the following statements is used to define a default case in a switch statement?
   A) default:
   B) else:
   C) case default:
   D) case else:
   Answer: A) default:

   Which of the following control structures is used to execute a block of code only if a

specific condition is true?
A) if-else statement
B) switch statement
C) for loop
D) while loop
Answer: A) if-else statement

Which of the following statements is used to exit a loop when a specific condition is met?
A) if statement
B) switch statement
C) break statement
D) continue statement
Answer: C) break statement

Which of the following control structures is used to execute a block of code repeatedly as long as a specific condition is true?
A) if-else statement
B) switch statement
C) for loop
D) while loop
Answer: D) while loop

Which of the following statements is used to transfer control to a different part of the program based on a specific condition?
A) if statement
B) switch statement
C) break statement
D) goto statement
Answer: D) goto statement (Note: goto statement is generally discouraged in modern programming due to its potential to cause confusion and make code harder to read and maintain.)

Lec 6 - ASCII Codes

1. **What does ASCII stand for?**
   A. American Standard Code for Information Interchange
   B. Advanced Standard Code for Internet Interchange
   C. Association of Standardized Computer Information
   D. Automated System Code for Integrated Interchange
   Answer: A

   How many bits are used in ASCII code to represent a single character?
   A. 4 bits
   B. 8 bits
   C. 12 bits
   D. 16 bits
   Answer: B

   Which of the following is NOT included in ASCII code?
   A. Letters (uppercase and lowercase)
   B. Numbers (0-9)
   C. Punctuation marks
   D. Emojis
   Answer: D

   What is the decimal value for the uppercase letter 'A' in ASCII code?
   A. 65
   B. 97
   C. 72
   D. 90
   Answer: A

   Which of the following is an example of a non-printable character in ASCII code?
   A. Space
   B. Tab
   C. Exclamation mark
   D. Letter 'A'
   Answer: B

   Which of the following is the hexadecimal representation for the binary code 00101011 in ASCII code?
   A. 2B
   B. 3F
   C. 5E
   D. 7D
   Answer: A

   What is the decimal value for the symbol '@' in ASCII code?
   A. 42
   B. 64
   C. 75
   D. 98
   Answer: B

   Which of the following is the ASCII code for the lowercase letter 'e'?
   A. 65

B. 97
C. 101
D. 103
Answer: C

What is the ASCII code for the digit '8'?
A. 48
B. 56
C. 64
D. 72
Answer: B

What is the ASCII code for the percent symbol (%)?
A. 35
B. 44
C. 63
D. 37
Answer: D

Lec 7 - String Processing

1. **What is string processing?**
   a) The manipulation of numerical data
   b) The manipulation of textual data
   c) The manipulation of graphical data
   d) The manipulation of audio data
   Answer: b) The manipulation of textual data

   Which data type is used to represent strings in most programming languages?
   a) integer
   b) float
   c) string
   d) boolean
   Answer: c) string

   Which function is used to concatenate two strings in Python?
   a) add()
   b) concat()
   c) append()
   d) join()
   Answer: d) join()

   Which function is used to convert a string to uppercase in Java?
   a) toLowerCase()
   b) toUpperCase()
   c) upper()
   d) caseUpper()
   Answer: b) toUpperCase()

   Which function is used to find the length of a string in C++?
   a) strlen()
   b) length()
   c) size()
   d) count()
   Answer: a) strlen()

   Which symbol is used to represent the end of a string in C++?
   a) %
   b) $
   c) #
   d) \0
   Answer: d) \0

   Which function is used to extract a substring from a string in JavaScript?
   a) extract()
   b) substring()
   c) slice()
   d) splice()
   Answer: b) substring()

   Which function is used to find the position of a substring within a string in Python?
   a) find()

b) search()
c) locate()
d) position()
Answer: a) find()

Which operator is used to compare two strings in most programming languages?
a) ==
b) =
c) !=
d) <
Answer: a) ==

Which function is used to replace a substring with another string in PHP?
a) replace()
b) swap()
c) exchange()
d) switch()
Answer: a) replace()

Lec 8 - Interrupts

1. **What is an interrupt?**
   A. A type of exception
   B. A type of error
   C. A type of function call
   D. A type of loop
   Answer: A

   Which of the following is not an example of an interrupt?
   A. Keyboard input
   B. Mouse input
   C. Printer output
   D. Timer overflow
   Answer: C

   What is a hardware interrupt?
   A. An interrupt triggered by the CPU
   B. An interrupt triggered by an external device
   C. An interrupt triggered by a software program
   D. An interrupt triggered by a user input
   Answer: B

   What is a software interrupt?
   A. An interrupt triggered by the CPU
   B. An interrupt triggered by an external device
   C. An interrupt triggered by a software program
   D. An interrupt triggered by a user input
   Answer: C

   Which of the following is not a type of interrupt?
   A. Maskable interrupt
   B. Non-maskable interrupt
   C. High-priority interrupt
   D. Low-priority interrupt
   Answer: C

   Which of the following is true about non-maskable interrupts?
   A. They can be disabled by software.
   B. They cannot be disabled by software.
   C. They are triggered by external devices.
   D. They are triggered by software programs.
   Answer: B

   Which of the following is true about maskable interrupts?
   A. They cannot be disabled by software.
   B. They are triggered by external devices.
   C. They are triggered by software programs.
   D. They cannot be prioritized.
   Answer: C

   What is a vectored interrupt?
   A. An interrupt with a fixed priority level.

B. An interrupt with a variable priority level.
C. An interrupt that shares the same priority level as other interrupts.
D. An interrupt that has a specific address assigned to it.
Answer: D

Which of the following is an example of a non-maskable interrupt?
A. System call
B. Timer interrupt
C. Power failure
D. Interrupt from a mouse click
Answer: C

Which of the following is true about interrupt handling?
A. It must be done in real-time.
B. It is not a time-critical operation.
C. It is done by the operating system.
D. It is not necessary in modern computer systems.
Answer: A

Lec 9 - Hardware Interrupts

1. **Which of the following statements is true about hardware interrupts?**
   a) They are generated by software instructions.
   b) They are triggered by hardware events.
   c) They are used for system calls.
   d) They are non-maskable interrupts.
   Answer: b) They are triggered by hardware events.

   Which of the following is an example of a hardware interrupt?
   a) A system call
   b) A software exception
   c) A timer expiration
   d) A user input
   Answer: c) A timer expiration

   Which of the following is responsible for handling hardware interrupts?
   a) The CPU
   b) The operating system
   c) The interrupt controller
   d) The device driver
   Answer: b) The operating system

   Which of the following is used to prioritize hardware interrupts?
   a) The CPU
   b) The interrupt controller
   c) The device driver
   d) The operating system
   Answer: b) The interrupt controller

   Which of the following statements is true about non-maskable interrupts?
   a) They can be disabled by software.
   b) They are triggered by external devices.
   c) They are used for critical events that cannot be ignored.
   d) They can be handled by interrupt chaining.
   Answer: c) They are used for critical events that cannot be ignored.

   Which of the following is an example of a non-maskable interrupt?
   a) A keyboard input
   b) A mouse input
   c) A power failure
   d) A network error
   Answer: c) A power failure

   Which of the following is responsible for minimizing interrupt latency?
   a) The CPU
   b) The operating system
   c) The interrupt controller
   d) The device driver
   Answer: c) The interrupt controller

   Which of the following techniques is used to handle multiple interrupts of the same type?
   a) Interrupt masking

b) Interrupt priority
c) Interrupt chaining
d) Interrupt polling
Answer: c) Interrupt chaining

Which of the following statements is true about interrupt chaining?
a) It is used to handle multiple interrupts of different types.
b) It is used to handle multiple interrupts of the same type.
c) It is used to disable hardware interrupts.
d) It is used to enable hardware interrupts.
Answer: b) It is used to handle multiple interrupts of the same type.

Which of the following is an example of a device that generates multiple interrupts?
a) A printer
b) A keyboard
c) A timer
d) A network card
Answer: d) A network card

Lec 10 - Debugger using single step interrupt

1. **What is a debugger?**
   a) A hardware device used to interrupt program execution
   b) A software tool used to identify and fix errors in programs
   c) A programming language
   Answer: b

   What is a single step interrupt?
   a) A hardware device used to interrupt program execution
   b) A software tool used to identify and fix errors in programs
   c) A debugging technique that allows programs to be executed one instruction at a time
   Answer: c

   What is the purpose of a single step interrupt?
   a) To execute a program faster
   b) To examine the state of the system after each instruction
   c) To skip over sections of code
   Answer: b

   What is the advantage of using a single step interrupt?
   a) It allows developers to execute a program faster
   b) It allows developers to examine the state of the system after each instruction
   c) It allows developers to skip over sections of code
   Answer: b

   How does a debugger work?
   a) By interrupting program execution
   b) By executing programs one instruction at a time
   c) By examining the state of the system after each instruction
   Answer: c

   Which debugging technique allows programs to be executed one instruction at a time?
   a) Single step interrupt
   b) Breakpoint
   c) Watchpoint
   Answer: a

   What is the purpose of a breakpoint?
   a) To execute a program faster
   b) To examine the state of the system after each instruction
   c) To pause program execution at a specific point in the code
   Answer: c

   What is a watchpoint?
   a) A hardware device used to interrupt program execution
   b) A software tool used to identify and fix errors in programs
   c) A debugging technique that pauses program execution when a specific memory location is accessed
   Answer: c

   Which debugging technique pauses program execution at a specific point in the code?
   a) Single step interrupt

b) Breakpoint
c) Watchpoint
Answer: b

What is the main advantage of using a debugger?
a) It allows developers to execute programs faster
b) It allows developers to identify and fix errors in their programs
c) It allows developers to skip over sections of code
Answer: b

Lec 11 - Concepts of Multitasking

1. **Which of the following is a key cognitive process involved in multitasking?**
   A) Perception
   B) Memory
   C) Attention
   D) Language
   Answer: C) Attention

   What is the term for the ability to switch between tasks quickly?
   A) Task orientation
   B) Task switching
   C) Task management
   D) Task prioritization
   Answer: B) Task switching

   Which of the following is a potential downside of multitasking?
   A) Increased productivity
   B) Decreased stress levels
   C) Increased errors and decreased performance
   D) Increased creativity
   Answer: C) Increased errors and decreased performance

   What is the term for the phenomenon where multitasking reduces overall performance?
   A) Cognitive overload
   B) Task interference
   C) Multitasking deficit
   D) Attentional bias
   Answer: C) Multitasking deficit

   Which of the following is an example of concurrent multitasking?
   A) Listening to music while studying
   B) Switching between two different homework assignments
   C) Talking on the phone while driving
   D) None of the above
   Answer: C) Talking on the phone while driving

   Which of the following is a factor that can affect an individual's ability to multitask effectively?
   A) Age
   B) Gender
   C) Personality
   D) All of the above
   Answer: D) All of the above

   Which of the following is a strategy that can help individuals manage multitasking?
   A) Setting clear priorities
   B) Avoiding interruptions
   C) Using technology to automate tasks
   D) All of the above
   Answer: D) All of the above

   What is the term for the amount of information that can be held in working memory?
   A) Capacity

B) Duration
C) Encoding
D) Retrieval
Answer: A) Capacity

Which of the following is a type of multitasking that can be beneficial?
A) Sequential multitasking
B) Concurrent multitasking
C) Task switching
D) None of the above
Answer: A) Sequential multitasking

Which of the following is an example of a technology design that can facilitate multitasking?
A) A task manager app
B) A social media platform
C) A video game
D) None of the above
Answer: A) A task manager app

Lec 12 - BIOS Video Services

1. **Which of the following is NOT a function of BIOS Video Services?**
   a) Initializing the video hardware
   b) Changing the video mode
   c) Drawing characters and graphics on the screen
   d) Loading the operating system
   Answer: d) Loading the operating system

   What does BIOS stand for?
   a) Basic Input/Output System
   b) Basic Information Operating System
   c) Binary Input/Output Service
   d) Binary Information Operating System
   Answer: a) Basic Input/Output System

   Which of the following is responsible for interacting with the video display hardware?
   a) BIOS Video Services
   b) Operating System
   c) Motherboard
   d) CPU
   Answer: a) BIOS Video Services

   Which function of BIOS Video Services allows changing the screen resolution?
   a) SetMode
   b) DrawString
   c) InitDisplay
   d) ScrollScreen
   Answer: a) SetMode

   Which of the following is a standard video mode supported by BIOS Video Services?
   a) 1024x768
   b) 1280x720
   c) 1366x768
   d) All of the above
   Answer: d) All of the above

   Which function of BIOS Video Services is used to clear the screen?
   a) SetColor
   b) ClearScreen
   c) DrawString
   d) SetMode
   Answer: b) ClearScreen

   Which of the following is NOT a video display hardware?
   a) Monitor
   b) Graphics Card
   c) Keyboard
   d) Integrated Graphics
   Answer: c) Keyboard

   Which function of BIOS Video Services is used to draw a rectangle on the screen?
   a) DrawString

b) DrawPixel
c) DrawLine
d) DrawRectangle
Answer: d) DrawRectangle

Which of the following is responsible for controlling the boot-up process?
a) Operating System
b) BIOS
c) Graphics Card
d) CPU
Answer: b) BIOS

Which function of BIOS Video Services is used to scroll the screen up or down?
a) SetMode
b) DrawString
c) ScrollScreen
d) DrawPixel
Answer: c) ScrollScreen

Lec 13 - Physical Formation

1. **Which of the following is NOT an example of physical formation?**
   a) Mountain formation through plate tectonics
   b) Glacier formation due to climate change
   c) Building construction by humans
   d) Erosion of rocks by water
   Solution: c) Building construction by humans

   Which of the following is a result of erosion?
   a) Formation of volcanoes
   b) Formation of mountains
   c) Formation of canyons
   d) Formation of caves
   Solution: c) Formation of canyons

   The process of lithification involves:
   a) Formation of igneous rocks from molten magma
   b) Formation of sedimentary rocks from loose sediments
   c) Formation of metamorphic rocks from pre-existing rocks
   d) Formation of minerals through precipitation from water
   Solution: b) Formation of sedimentary rocks from loose sediments

   Which of the following is an example of a constructive force of nature?
   a) Earthquakes
   b) Volcanic eruptions
   c) Glacial movements
   d) Deposition of sediment by wind or water
   Solution: d) Deposition of sediment by wind or water

   The movement of tectonic plates is driven by:
   a) Gravity
   b) Solar radiation
   c) Convection currents in the mantle
   d) Magnetic fields
   Solution: c) Convection currents in the mantle

   Which of the following is NOT a type of rock?
   a) Granite
   b) Sandstone
   c) Quartz
   d) Iron
   Solution: d) Iron

   Which of the following processes is responsible for the formation of stalactites and stalagmites in caves?
   a) Erosion
   b) Deposition
   c) Weathering
   d) Melting
   Solution: b) Deposition

   The Grand Canyon in the United States was formed primarily by:
   a) Volcanic activity

b) Erosion by wind
c) Erosion by water
d) Plate tectonics
Solution: c) Erosion by water

Which of the following is a type of volcano that has steep slopes and explosive eruptions?
a) Shield volcano
b) Composite volcano
c) Caldera volcano
d) Cinder cone volcano
Solution: b) Composite volcano

The process of weathering can be caused by:
a) Chemical reactions
b) Physical forces
c) Biological activity
d) All of the above
Solution: d) All of the above

Lec 14 - Introduction

1. **What is the purpose of an introduction?**
   A) To provide context and background information
   B) To make an argument
   C) To provide a conclusion
   D) None of the above
   Solution: A

   What should be included in an introduction?
   A) A thesis statement
   B) An overview of key points
   C) Background information
   D) All of the above
   Solution: D

   What is a thesis statement?
   A) A summary of the entire work
   B) A statement of the main argument or point
   C) A conclusion
   D) None of the above
   Solution: B

   Which of the following is NOT a common way to start an introduction?
   A) Anecdote
   B) Quotation
   C) Summary of the conclusion
   D) Shocking fact or statistic
   Solution: C

   What is the purpose of an attention-getter in the introduction?
   A) To engage the reader or audience
   B) To provide context and background information
   C) To make an argument
   D) None of the above
   Solution: A

   How long should an introduction be?
   A) One sentence
   B) One paragraph
   C) One page
   D) It depends on the length of the work
   Solution: D

   What is the purpose of a hook in the introduction?
   A) To engage the reader or audience
   B) To provide context and background information
   C) To make an argument
   D) None of the above
   Solution: A

   Which of the following is a common mistake to avoid in the introduction?
   A) Being too general

B) Being too specific
C) Using jargon or technical terms
D) All of the above
Solution: A

What is the purpose of a roadmap in the introduction?
A) To provide context and background information
B) To make an argument
C) To provide an overview of key points
D) None of the above
Solution: C

Which of the following is a key element of a strong introduction?
A) Clear and concise language
B) A compelling hook
C) A thesis statement
D) All of the above
Solution: D

Lec 15 - Introduction 2

1. **What is the purpose of an introduction?**
   A) To provide context and background information
   B) To make an argument
   C) To provide a conclusion
   D) None of the above
   Solution: A

   What should be included in an introduction?
   A) A thesis statement
   B) An overview of key points
   C) Background information
   D) All of the above
   Solution: D

   What is a thesis statement?
   A) A summary of the entire work
   B) A statement of the main argument or point
   C) A conclusion
   D) None of the above
   Solution: B

   Which of the following is NOT a common way to start an introduction?
   A) Anecdote
   B) Quotation
   C) Summary of the conclusion
   D) Shocking fact or statistic
   Solution: C

   What is the purpose of an attention-getter in the introduction?
   A) To engage the reader or audience
   B) To provide context and background information
   C) To make an argument
   D) None of the above
   Solution: A

   How long should an introduction be?
   A) One sentence
   B) One paragraph
   C) One page
   D) It depends on the length of the work
   Solution: D

   What is the purpose of a hook in the introduction?
   A) To engage the reader or audience
   B) To provide context and background information
   C) To make an argument
   D) None of the above
   Solution: A

   Which of the following is a common mistake to avoid in the introduction?
   A) Being too general

B) Being too specific
C) Using jargon or technical terms
D) All of the above
Solution: A

What is the purpose of a roadmap in the introduction?
A) To provide context and background information
B) To make an argument
C) To provide an overview of key points
D) None of the above
Solution: C

Which of the following is a key element of a strong introduction?
A) Clear and concise language
B) A compelling hook
C) A thesis statement
D) All of the above
Solution: D

Lec 16 - Calling Conventions

1. **What is a calling convention?**
   a. A set of rules for how a program calls a function and returns from it.
   b. A set of rules for naming variables in a program.
   c. A set of rules for how a program handles errors.
   d. A set of rules for how a program allocates memory.
   Solution: a.

   Which of the following is not an example of a calling convention?
   a. cdecl
   b. stdcall
   c. fastcall
   d. objectcall
   Solution: d.

   Which of the following is a common calling convention used by the Windows operating system?
   a. cdecl
   b. stdcall
   c. fastcall
   d. objectcall
   Solution: b.

   In which direction are function arguments typically pushed onto the stack in the cdecl calling convention?
   a. Left to right
   b. Right to left
   c. Top to bottom
   d. Bottom to top
   Solution: b.

   Which of the following is an advantage of the fastcall calling convention?
   a. It allows for more flexible use of registers.
   b. It simplifies the process of passing arguments.
   c. It ensures that functions are always called in the same way.
   d. It reduces the size of the compiled code.
   Solution: a.

   Which calling convention is commonly used by C++ compilers?
   a. cdecl
   b. stdcall
   c. thiscall
   d. objectcall
   Solution: c.

   In which calling convention are the first two function arguments typically passed in registers?
   a. cdecl
   b. stdcall

c. fastcall
d. thiscall
Solution: c.

Which of the following is a disadvantage of the stdcall calling convention?
a. It is not supported on all architectures.
b. It can cause problems with inter-language calling.
c. It can lead to stack overflow errors.
d. It is slower than other calling conventions.
Solution: b.

Which calling convention is commonly used by the Linux operating system?
a. cdecl
b. stdcall
c. fastcall
d. systemcall
Solution: a.

Which of the following is a characteristic of a good calling convention?
a. It is consistent across different programming languages.
b. It allows for efficient use of registers.
c. It minimizes the size of the compiled code.
d. All of the above.
Solution: d.

Lec 17 - Motorolla 68K Processors

1. **What is the data bus width of the Motorola 68K processor?**
   A) 8 bits
   B) 16 bits
   C) 32 bits
   D) 64 bits
   Answer: C) 32 bits

   What was the maximum clock speed of the Motorola 68000 processor?
   A) 2 MHz
   B) 8 MHz
   C) 16 MHz
   D) 33 MHz
   Answer: C) 16 MHz

   Which addressing mode of the 68K processor allows for the addressing of data using a displacement relative to the program counter?
   A) Register addressing
   B) Immediate addressing
   C) Relative addressing
   D) Absolute addressing
   Answer: C) Relative addressing

   Which version of the 68K processor introduced support for virtual memory?
   A) 68000
   B) 68010
   C) 68020
   D) 68030
   Answer: C) 68020

   Which of the following is not a register in the 68K processor?
   A) A0
   B) D7
   C) PC
   D) SP
   Answer: B) D7

   What is the maximum amount of memory that can be addressed by the 68K processor?
   A) 1 MB
   B) 4 GB
   C) 16 MB
   D) 4 TB
   Answer: B) 4 GB

   Which instruction set architecture is used by the 68K processor?
   A) CISC
   B) RISC
   C) VLIW
   D) EPIC
   Answer: A) CISC

   Which of the following is not a member of the 68K processor family?

B) 68010
C) 68030
D) 68060
Answer: D) 68060

Which interrupt handling method is used by the 68K processor?
A) Polling
B) Daisy chaining
C) Vectored interrupt
D) Direct memory access
Answer: C) Vectored interrupt

Which operating system was not supported by the Motorola 68K processor?
A) Mac OS
B) Windows
C) AmigaOS
D) Unix
Answer: B) Windows