23 Lecture - CS402

Important Mcqs

1. **Which of the following is a regular language?**
   a) {anbn | n ? 0}
   b) {anbn | n > 0}
   c) {anbm | n ? m}
   d) {an | n is prime}
   Answer: a) {anbn | n ? 0}

   Which of the following operations does not result in a regular language?
   a) Union
   b) Concatenation
   c) Kleene star
   d) Intersection
   Answer: d) Intersection

   Which of the following is a regular expression for the language consisting of all strings of 0's and 1's that do not contain the substring 11?
   a) (0+1)11(0+1)
   b) (0+1)0(0+10)
   c) (0+1)(1+01)
   d) (0+1)1(0+01)
   Answer: d) (0+1)1(0+01)

   Which of the following is not a regular language?
   a) {0n1n | n ? 0}
   b) {0n1n | n > 0}
   c) {0n1m | n, m ? 0}
   d) {0n | n is a perfect square}
   Answer: d) {0n | n is a perfect square}

   Which of the following is a regular expression for the language consisting of all strings of 0's and 1's that end with 01?
   a) (0+1)*01
   b) (0+1)*0(1+01)
   c) (0+1)*1(0+1)*01
   d) (0+1)1(1+01)
   Answer: c) (0+1)*1(0+1)*01

   Which of the following is a regular expression for the language consisting of all strings of 0's and 1's that contain at least one 0 and one 1?
   a) (0+1)01(0+1)
   b) (0+1)*0(0+1)1(0+1)
   c) (0+1)*0+(0+1)1+
   d) (0+1)
   Answer: b) (0+1)*0(0+1)1(0+1)

   Which of the following is a regular language?
   a) {w | w contains an equal number of 0's and 1's}

b) {w | the length of w is a prime number}
c) {w | w contains a substring of three 0's}
d) {w | the number of 0's in w is equal to the number of 1's in w}
Answer: d) {w | the number of 0's in w is equal to the number of 1's in w}

Which of the following is a regular expression for the language consisting of all strings of 0's and 1's with an even number of 0's and an odd number of 1's?
a) (0+1)*00(0+1)11(0+1)
b) (0+1)*01(0+1)10(0+1)
c) (0+1)*0(0+1)*1(0+1)*1
d) (0+1)*0(0+1)*1+
Answer: c) (0+1)*0(0+1)*1(0+1)*1

Which of the following is not a regular language