Chapter 52 – Regular expressions

In-text questions

Q1: R = colou?r or col(o|ou)r

Q2: a*b+

Q3: Scooby, Scoby, Scobby, Scoobdbdbdy

Q4: ab*(a|b)

Q5: a(ba)*a

Exercises

1.   (a)   ab$^+$c *or* abb*c *or* ab*bc   [1]

       (b)   (0|1)1* or   (1|0)1*   or 0 |(0?1*)   [1]

2.   (a)   (i)   One or more a's followed by b   [1]

              (ii)   The strings of ab or b // zero or one a's followed by b   [1]

              (iii) A sequence of zero or more occurrences of ab   [1]

       (b)   (i)   Clai?re   or Clare|Claire or Cla(ir|r)e or other valid possibilities   [1]

              (ii)   10(0|1)*01   [2]

              1 mark for the 10 at the start and 01 at the end
              1 mark for (0|1)* in the middle to produce a correct expression
              A use of different types of brackets
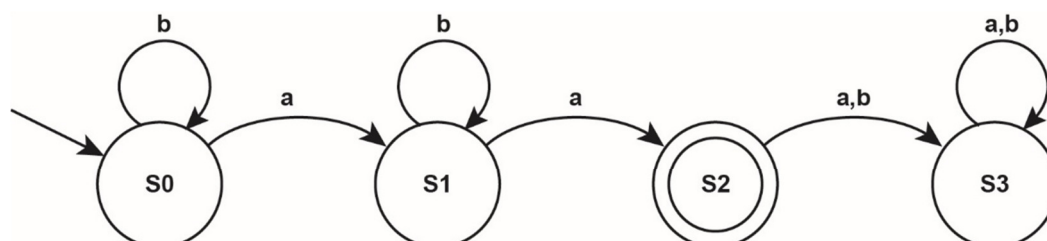   Award **2 marks** for any other expression that would work

3.   (a)   11001, 101111   [3]

            (2 marks for 2 correct, plus one mark for not including any incorrect strings)

       (b)   0*1$^+$(1*(00 | 01)*)*1*   [3]

4. See below:

              [3]