Name - Rashi Singh
Roll No - 170101052

Question 8 -

a)   Assigned IP (according to given rules) – 170.101.52.52
       Given subnet mask - /23 = 255.255.254.0

       First Address of the network – 170.101.52.0/23

b)   Given -
              A – 250 interfaces
              B – 120 interfaces
              C – 120 interfaces
              D,E,F – 2 interfaces each

       Possible Assignments are -
              Subnet A –   170.101.53.0/24
                                (256 interfaces)

              Subnet B –   170.101.52.0/25 – 170.101.52.0/29
                                (128 – 8 = 120 interfaces)

              Subnet C –   170.101.52.128/25
                                (128 interfaces)

              Subnet D –   170.101.52.0/31
                                (2 interfaces)

              Subnet E –   170.101.52.2/31
                                (2 interfaces)

              Subnet F –   170.101.52.4/30
                                (4 interfaces)

c)   Forwarding tables for each router -

              Router 1 -

Longest Prefix Match	Outgoing Interface
10101010 1100101 00110101	Subnet A
10101010 1100101 00110100 0	Subnet D
10101010 1100101 00110100 1	Subnet F

              Router 2 -

Longest Prefix Match	Outgoing Interface
10101010 1100101 00110100 0	Subnet B
10101010 1100101 00110101	Subnet D
10101010 1100101 00110100 1	Subnet E

              Router 3 -

Longest Prefix Match	Outgoing Interface
10101010 1100101 00110100	Subnet C
10101010 1100101 00110100 0	Subnet E
10101010 1100101 00110101 1	Subnet F