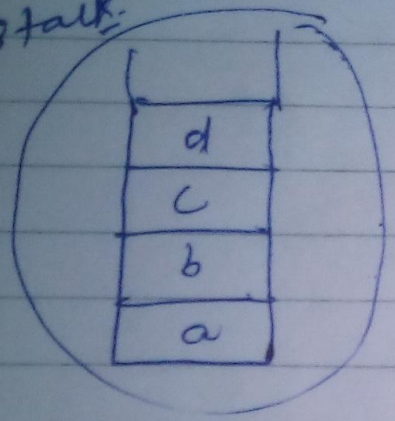
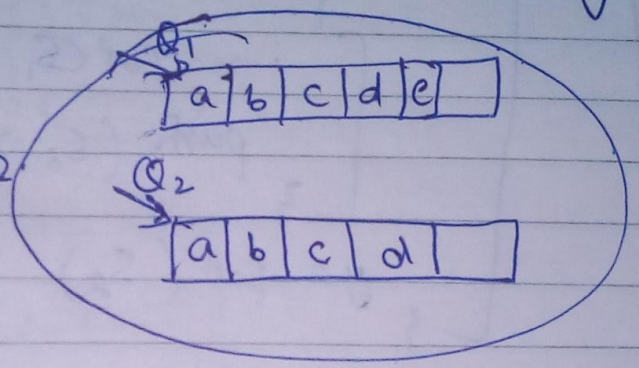
86-90

Ques. Write a C program to implement stack using Queue.

stack:



using Queue.



4-PU
I-PU
1-POP

1-POP

1-PU
3-PU
1-POP

4-PU = 4-Eϕ

1-PU = 1-Eϕ (5)

I-POP = 4-Dϕ-Q1
= 4-Eϕ-ϕ2
= 1-Dϕ-ϕ1

1-POP = 3-Dϕ-ϕ2
= 3-Eϕ-ϕ1
= 1-Dϕ-Q2.

1PU = 1-Eϕ-ϕ1
3PU = 3-Eϕ-ϕ1
1POP = 6-Dϕ-Q1
= 6-Eϕ-Q2
= 1-Dϕ=ϕ1

→ PUSH(Q_1, Q_2, x)

```
{
    if (Q1 is empty)
        EQ (Q2, x)
    else
        EQ (Q1, x).
}
```

⇒ O(1)

→ POP (Q_1, Q_2)

```
{
    if (Q1 is empty)
    {
        while (Q2 not Contain 1- element)
        {
            x = DQ (Q2)
            EQ = (Q1, x)
        }
        y = DQ (Q2)
        return (y);
    }
    else
    {
        while (Q1 not 1-element)
        {
            x = DQ (Q1)
            EQ = (Q2, x)
        }
        y = DQ (Q1)
        return (y);
    }
}
```

⇒ O(n)

BC
WC
AC