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1BM19ES014

a) WAP to simulate the working of a circular queue using an array.
a: Insert c) Display
b: Delete

```
#include <stdio.h>
#include <stdlib.h>
#define Q_SIZE 3
int item, front = 0, rear = -1, q[10];
void insertrear()
{
  if (rear == Q_SIZE-1)
{ printf("Queue Overflow \n");
  return;
}
rear++;
q[rear] = item;
}
int deletefront()
{ if (front > rear)
{ front=0;
  rear = -1;
  return = -1;
}
 return q[front++];
}
void displayQ()
{ int i;
  if (front > rear)
{printf("Queue is empty \n");
 return;
}
```

```
printf ("Contents of queue \n");
for (i=front; i<=rear; i++)
{ printf ("%d\n", q[i]);
}
}
void main()
{ int choice;
  for (;;)
{printf ("\n1. Insert rear \n2. Delete front \n3. Display \n
          4. Exit \n");
  printf ("Enter your choice ");
  scanf ("%d", &choice);
switch (choice)
{ case 1:{ printf ("Enter the item to be inserted :\n");
           scanf ("%d", &item);
           insert rear();
           break;}
  case 2: { item= delete front();
            if (item==-1)
            printf ("queue is empty");
            else
             printf ("Item deleted = %d\n", item);
            break;}
case 3: { display Q();
          break;}
default :{ exit(0);
           break; }
}
}
}
```