Q: Implementation of a Queue.

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#include<stdio.h>
#include<stdlib.h>
#define size 20

int queue[size];
int f=-1, r=-1;
void push(int);
void pop();
void display();

int main(){
   int ch;
   int n;
   do{
      printf("Press 1 to push\n");
      printf("Press 2 to pop\n");
      printf("Press 3 to display\n");
      printf("Press 4 to exit\n");
      scanf("%d", &ch);
      switch(ch){
         case 1: printf("Enter the element to push: ");
               scanf("%d", &n);
               push(n);
         break;
         case 2: pop();
         break;
         case 3: display();
         break;
         case 4: break;
         default: printf("WRONG CHOICE\n");
      }
   }while(ch!=4);
   return 0;
}
void push(int val)
{
   if(r==size-1){
      printf("OVERFLOW\n");
      return;
   }
   if(f==-1 || f>r) f = r = 0;
   else r++;
```

```
   queue[r] = val;
}
void pop()
{
   if(f==-1 || f>r){
      printf("UNDERFLOW\n");
      return;
   }
   printf("%d is popped\n", queue[f]);
   f++;
}
void display(){
   if(f==-1 || f>r){
      printf("UNDERFLOW\n");
      return;
   }
   int i=f;
   while(i<=r){
      printf("%d\n", queue[i]);
      i++;
   }
}
```

OUTPUT:

INPUT: (Choice)	OUTPUT:
	*** Queue Menu *** 1.Push 2.Pop 3.Display 4.Exit
1	Enter element to push: 65
1	Enter element to push: 25
1	Enter element to push: 39

3	65 25 39
2	65 is popped
3	25 65