

Question 1

```
#include <stdio.h>
```

```
int q[50];
```

```
int f=-1,r=-1,size=5;
```

```
void enqueue(int x);
```

```
void dequeue();
```

```
void display()
```

```
{
```

```
    if(f == -1)
```

```
    {
```

```
        printf("No item to display");
```

```
        return;
```

```
    }
```

```
    if(r<f)
```

```
    {
```

```
        for(int i=f;i<size;i++)
```

```
            printf("%d ",q[i]);
```

```
        for(int j=0;j<=r;j++)
```

```
            printf("%d ",q[j]);
```

```
    }
```

```
    for (int i = f; i<=r ; i++)
```

```
    {
```

```
        printf("%d ",q[i]);
```

```
    }
```

```
    printf("\n");
}

int main()
{
    //printf("Enter the queue size:");
    //scanf("%d",&size);

    enqueue(10);
    enqueue(20);
    enqueue(30);
    enqueue(40);
    enqueue(50);

    display();

    dequeue();

    display();

    enqueue(60);

    display();
    dequeue();
    printf("This should work \n");

    enqueue(70);

    display();
```

```
    return 0;
}
```

```
void enqueue(int x)
```

```
{
    if(f==(r+1)%size) //if(r==size-1)
    {
        printf("Overflow\n");
        return;
    }
```

```
    if(r== -1)
        f=r=0;
    else if(r==size-1)
        r=0;
    else
        r++;
```

```
    q[r]=x;
```

```
}
```

```
void dequeue()
```

```
{
    int x;
    if(f== -1)
    {
```

```
    printf("Underflow");  
    return ;  
}  
  
x=q[f];  
  
if(f==r)  
    f=r=-1;  
else  
    f++;  
  
printf("Deleted item: %d\n", x);  
  
}
```