NAME – RAJDEEP JAISWAL **DATE – 18 Oct 2021**

BRANCH – BTECH CSE **SEC = 13 A**

UID -20BCS2761

Q Write a program to create a linear queue of 10 values.
SOLUTION -

Code in Text Form –

```
#include<iostream>
using namespace std;
class queue
{
    public :

    int front;
    int back;
    int temp;
    int* array;

    queue(int s)
    {
        temp = s;
        array = new int[temp];
        front = -1;
        back = -1;
    }
```

```
void push(int x)
{
    if(back == temp - 1)
    {
        cout << "overflow" << endl;
        return ;
    }
    back ++;
    array[back] = x;

    if(front == -1)
    {
        front ++;
    }
}

void pop()
{
    if(front == -1 || front > back)
    {
        cout << "no elements\n";
        return;
    }
    front ++;
}

int peek()
{
```

```
        if(front == -1 || front > back)
        {
            cout << "no elements\n";
            return -1;
        }

        return array[front];
    }

    bool empty()
    {
        if(front == -1 || front > back)
        {
            return true;
        }
        return false;
    }
};
int main()
{
    queue q1(10);

    q1.push(1);
    q1.push(2);
    q1.push(3);
    q1.push(4);
    q1.push(5);
    q1.push(6);
```

```
    q1.push(7);
    q1.push(8);
    q1.push(9);
    q1.push(10);

    while(q1.empty() != true)
    {
        cout << q1.peek() << " ";
        q1.pop();
    }

    return 0;
}
```

CODE IN COMPILER –

Get Started | raj.c | c1.cpp

c1.cpp > queue > queue(int)

```cpp
#include<iostream>
using namespace std;
class queue
{
    public :

    int front;
    int back;
    int temp;
    int* array;

    queue(int s)
    {
        temp = s;
        array = new int[temp];
        front = -1;
        back = -1;
    }

    void push(int x)
    {
        if(back == temp - 1)
        {
            cout << "overflow" << endl;
            return ;
        }
```

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c1.cpp > queue > temp

```
25              return ;
26          }
27          back ++;
28          array[back] = x;
29
30          if(front == -1)
31          {
32              front ++;
33          }
34      }
35
36      void pop()
37      {
38          if(front == -1 || front > back)
39          {
40              cout << "no elements\n";
41              return;
42          }
43          front ++;
44      }
45
46      int peek()
47      {
48          if(front == -1 || front > back)
49          {
50              cout << "no elements\n";
```

Get Started | raj.c | c1.cpp

c1.cpp > queue > temp

```
50              cout << "no elements\n";
51              return -1;
52          }
53
54          return array[front];
55      }
56
57      bool empty()
58      {
59          if(front == -1 || front > back)
60          {
61              return true;
62          }
63          return false;
64      }
65  };
66  int main()
67  {
68      queue q1(10);
69
70      q1.push(1);
71      q1.push(2);
72      q1.push(3);
73      q1.push(4);
74      q1.push(5);
75      q1.push(6);
```

c1.cpp > queue > temp

```cpp
int main()
{
    queue q1(10);

    q1.push(1);
    q1.push(2);
    q1.push(3);
    q1.push(4);
    q1.push(5);
    q1.push(6);
    q1.push(7);
    q1.push(8);
    q1.push(9);
    q1.push(10);

    while(q1.empty() != true)
    {
        cout << q1.peek() << " ";
        q1.pop();
    }

    return 0;
}
```

OUTPUT –