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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.peak() << " ";  
    q1.pop();  
}  
  
return 0;  
}
```

CODE IN COMPILER –

```
Get Started C raj.c c1.cpp x
c1.cpp > queue > queue(int)
1  #include<iostream>
2  using namespace std;
3  class queue
4  {
5      public :
6
7      int front;
8      int back;
9      int temp;
10     int* array;
11
12     queue(int s)
13     {
14         temp = s;
15         array = new int[temp];
16         front = -1;
17         back = -1;
18     }
19
20     void push(int x)
21     {
22         if(back == temp - 1)
23         {
24             cout << "overflow" << endl;
25             return ;
26         }

```

```
Get Started  C raj.c  G+ c1.cpp x
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 C raj.c c1.cpp x
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
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);
76     q1.push(7);
77     q1.push(8);
78     q1.push(9);
79     q1.push(10);
80
81     while(q1.empty() != true)
82     {
83         cout << q1.peak() << " ";
84         q1.pop();
85     }
86
87     return 0;
88 }
89
```

OUTPUT –

```
PROBLEMS OUTPUT TERMINAL
1: Code
cd "/Users/rajdeepjaiswal/Desktop/Codes/practices/" && g++ c1.cpp -o c1 && "/Users/rajdeepjaiswal/Desktop/Codes/practices/"c1
rajdeepjaiswal@Rajdeeps-Air practices % cd "/Users/rajdeepjaiswal/Desktop/Codes/practices/" && g++ c1.cpp -o c1 && "/Users/rajdeepjaiswal/Des
ktop/Codes/practices/"c1
1 2 3 4 5 6 7 8 9 10
rajdeepjaiswal@Rajdeeps-Air practices %
```