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**Course : DSA LAB**

## **Lab Task 4**

### **Qno#1**

```
#include <iostream>
```

```
#define MAX 1000
```

```
using namespace std;
```

```
class Stack
```

```
{
```

```
private:
```

```
    int top;
```

```
    int arr[MAX];
```

```
public:
```

```
    Stack()
```

```
    {
```

```
        top = -1;
```

```
    }
```

```
    bool push(int value)
```

```
    {
```

```
        if (top >= (MAX - 1))
```

```
        {
```

```
        cout << "Stack Overflow\n";
        return false;
    }
    else
    {
        arr[++top] = value;
        return true;
    }
}

int pop()
{
    if (top < 0)
    {
        cout << "Stack Underflow\n";
        return -1;
    }
    else
    {
        int value = arr[top--];
        return value;
    }
}

int peek()
{
```

```
    if (top < 0)
    {
        cout << "Stack is Empty\n";
        return -1;
    }
    else
    {
        return arr[top];
    }
}

bool isEmpty()
{
    return (top < 0);
}

};

void reverseArray(int arr[], int n)
{
    Stack mystack;
    for (int i = 0; i < n; i++)
    {
        mystack.push(arr[i]);
    }
    for (int i = 0; i < n; i++)
    {

```

```
        arr[i] = mystack.pop();
    }
}

int main()
{
    {
        int n;
        cout << "Enter size of the array: ";
        cin >> n;
        int arr[n];
        cout << "Enter the elements of the array: " << endl;
        for (int i = 0; i < n; i++)
        {
            cin >> arr[i];
        }
        reverseArray(arr, n);
        cout << "Reversed array: ";
        for (int i = 0; i < n; i++)
        {
            cout << arr[i] << " ";
        }
        cout << endl;
    }
    return 0;
}
```

}

```
C:\Users\farha\OneDrive\Doc  ×  +  ∨  
Enter size of the array: 6  
Enter the elements of the array:  
1  
2  
3  
4  
5  
6  
Reversed array: 6 5 4 3 2 1  
  
-----  
Process exited after 19.44 seconds with return value 0  
Press any key to continue . . . |
```