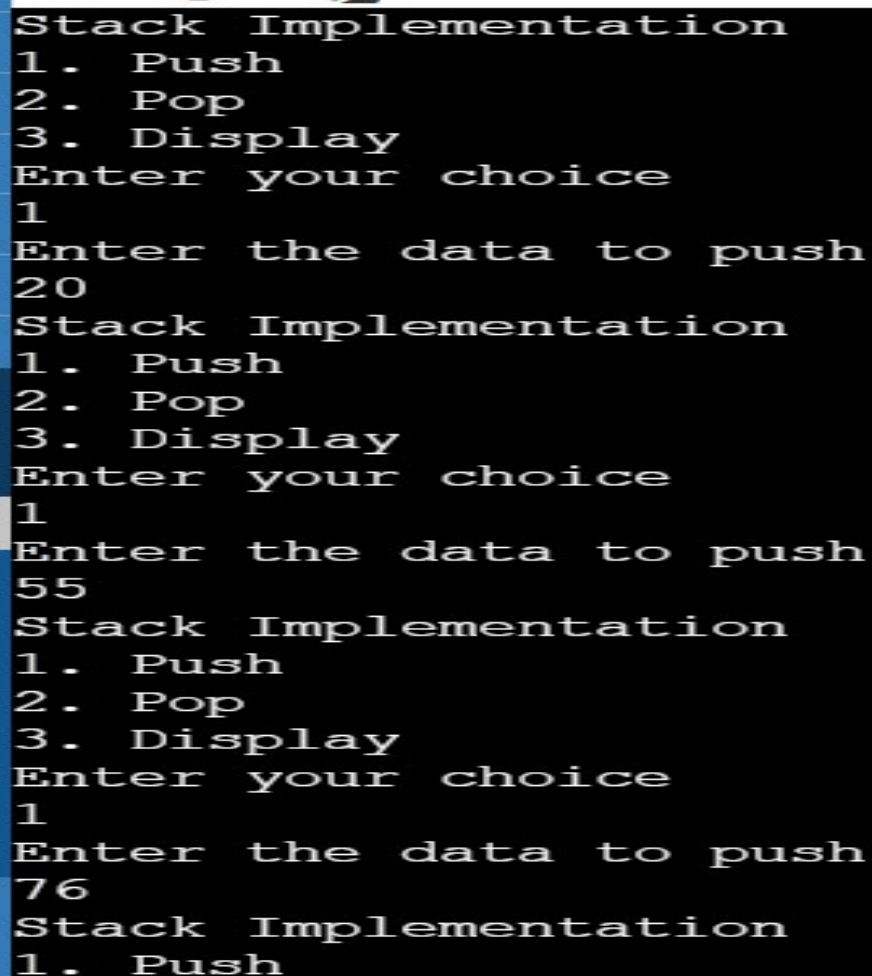**Name-Arya Dubey**

Registration Number-20BCE0908

Faculty: Professor Gopinath M.P.

STACK IMPLEMENTATION

```
Stack Implementation
1. Push
2. Pop
3. Display
Enter your choice
1
Enter the data to push
20
Stack Implementation
1. Push
2. Pop
3. Display
Enter your choice
1
Enter the data to push
55
Stack Implementation
1. Push
2. Pop
3. Display
Enter your choice
1
Enter the data to push
76
Stack Implementation
1. Push
```

```
1
Enter the data to push
109
Stack Implementation
1. Push
2. Pop
3. Display
Enter your choice
3
Element in the list are
Stack elements are
109       76        55        20        Stack Implementation
1. Push
2. Pop
3. Display
Enter your choice
2
Poped element is109
Stack Implementation
1. Push
2. Pop
3. Display
Enter your choice
3
Element in the list are
Stack elements are
```

```
3. Display
Enter your choice
3
Element in the list are
Stack elements are
109       76        55        20        Stack Implementation
1. Push
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Stack Implementation
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Element in the list are
Stack elements are
76        55        20        Stack Implementation
1. Push
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Enter your choice
```

```cpp
#include<iostream>
using namespace std;
struct node{
```

```cpp
        int data;
        node *next;
}*top=NULL;


void push(int d){
        node * q= new node;
        q->data=d;
        q->next=top;
        top=q;
}
void pop(){
        /*int temp;
        node *q;
        q=top;
        temp=q->data;
        top=top->next;

        delete q;
        cout<<temp<<endl;
*/
        int item;
    node *p;
    if (top == NULL)
    {
       cout<<"Underflow"<<endl;
    }
    else
    {
```

```cpp
            item = top->data;
            p = top;
            top = top->next;
            delete p;
            cout<<item<<endl;


    }
}
void display(){
/*      node *q;
        for(q=top;q!=NULL;q=q->next)
        cout<<q->data<<"\t";
        cout<<endl;*/



    node *p;
    p=top;
    if(p == NULL)
    {
        cout<<"Stack is empty"<<endl;
    }
    else
    {
        cout<<"Stack elements are"<<endl;
        while(p!=NULL)
        {
            cout<<p->data<<"\t";
            p = p->next;
```

```cpp
        }
    }
}
int main(){
    int choice,data;
    do{
        cout<<"Stack Implementation"<<endl;
        cout<<"1. Push"<<endl;
        cout<<"2. Pop"<<endl;
        cout<<"3. Display"<<endl;
        cout<<"Enter your choice"<<endl;
        cin>>choice;
        switch(choice){
            case 1:
                cout<<"Enter the data to push"<<endl;
                cin>>data;
                push(data);
                break;
            case 2:
                cout<<"Poped element is";
                pop();
                break;
            case 3:
                cout<<"Element in the list are"<<endl;
                display();
                break;
        }
    }while(1);
```

}