

A] Implementation of Stack as ADT

```
#include <iostream>
```

```
#include<conio.h>
```

```
#include<stdlib.h>
```

```
#define max 10
```

```
Using namespace std;
```

```
int stack[max], top, temp;
```

```
int Main ()
```

```
{
```

```
    int ch, number;
```

```
    top = -1;
```

```
    clrscr ();
```

```
    do
```

```
    {
```

```
        cout << "\n1-→Push the elements on the stack";
```

```
        cout << "\n2-→Pop the elements from the stack";
```

```
        cout << "\n3-→Display elements of stack";
```

```
        cout << "\n4-→Exit:";
```

```
        cout << "\nEnter your choice:";
```

```
        cin >> ch;
```

```
        switch (ch)
```

```
        {
```

```
            case 1:
```

```
                cout << "Enter the element";
```

```
                cin >> number;
```

```
if ((top + 1) == max)
    cout << "\nSack is full";
else
{
    top++;
    stack[top] = number;
}
temp = top;
break;
```

case 2:

```
top = temp;
if (top == -1)
    cout << "\n stack is empty";
else
{
    number = stack[top];
    top--;

    cout << number << "\t is popped";
}
break;
```

case 3:

```
if (top == -1)
    cout << "\nThe stack is empty";
else
{
```

```

        cout << "Contents of stack are :\n";
        while (top != -1)
        {
            number = stack[top];
            top--;
            cout << number << "\t";
        }
    }
    //end of switch

```

```

        cout << "\n Do you want to goto Main Menu[1/0]";
        cin >> ch;
    }
    while (ch == 1);
    getch ();
}

```

Output:

1-→Push the elements on the stack

2-→Pop the elements from the stack

3-→Display elements of stack

4-→Exit:

Enter your choice:1

Enter the element10

Do you want to goto Main Menu[1/0]1

1-→Push the elements on the stack

2-→Pop the elements from the stack

3-→Display elements of stack

4-→Exit:

Enter your choice:1

Enter the element:20

Do you want to goto Main Menu[1/0]:1

1-→Push the elements on the stack

2-→Pop the elements from the stack

3-→Display elements of stack

4-→Exit:

Enter your choice:3

Contents of stack are :

20

10

Do you want to goto Main Menu[1/0]:1

1-→Push the elements on the stack

2-→Pop the elements from the stack

3-→Display elements of stack

4-→Exit:

Enter your choice:2

20

Is popped

Do you want to goto Main Menu[1/0]:1

1-→Push the elements on the stack

2-→Pop the elements from the stack

3-→Display elements of stack

4-→Exit:

Enter your choice:3

Contents of stack are :

10

Do you want to goto Main Menu[1/0]: