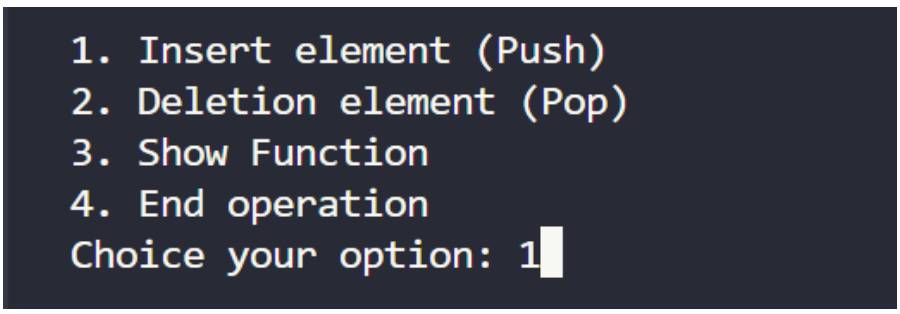
Report No: 1
Report Name: Write a stack program with push and pop function.
Code:

```
#include <bits/stdc++.h>
using namespace std;

   int top = -1;
   #define size 5
   int myArray[size];
   // ========FUNCTION DECLEARATION==========
   void pushFunction();
   void popFunction();
   void showFunction();
   void endFunction();
   void mainFunction();

int main(){
   mainFunction();
}

// =========PUSH OPERATION=========
void pushFunction(){
   system("cls");
   int value;
   if(top == size - 1){
      cout << "Stack is overflow";
      cout << "\nPress any key to continue";
      fflush(stdin);
      getchar();
      main();
   }else{
      top = top + 1;
      cout << "\nEnter " << top << " index element: ";
      cin >> value;
      myArray[top] = value;
      cout << "\nPress any key to continue";
      fflush(stdin);
      getchar();
      main();
   }
}

// ============POP OPERATION============
```

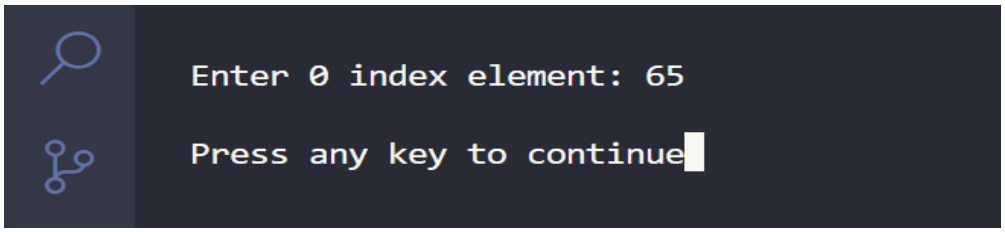
```
void popFunction(){
   system("cls");
   int item;
   if(top == -1){
      cout << "Stack is overflow";
      cout << "\nPress any key to continue";
      fflush(stdin);
      getchar();
      main();
   }else{
      item = myArray[top];
      cout << "\n" << item << " Element is deleted successfully & index num: " << top;
      top = top - 1;
      cout << "\nPress any key to continue";
      fflush(stdin);
      getchar();
      main();
   }
}

// ==========SHOW OPERATION==========
void showFunction(){
   system("cls");
   if(top == -1){
      cout << "Stack is overflow";
      cout << "\nPress any key to continue";
      fflush(stdin);
      getchar();
      main();
   }
   for(int i = 0 ; i <= top ; i++){
      cout << "\n" << i << " index element is: " << myArray[i];
   }
      cout << "\nPress any key to continue";
      fflush(stdin);
      getchar();
      main();
}

// ==========END OPERATION==========
void endFunction(){
   cout << "Your program is finished";
   exit(0);
}
```

```
// =========MAINFUNCTION OPERATION=========
void mainFunction(){
   system("cls");
   int choice;
   cout << "1. Insert element (Push)" <<endl;
   cout << "2. Deletion element (Pop)" <<endl;
   cout << "3. Show Function" <<endl;
   cout << "4. End operation" <<endl;
   cout << "Choice your option: ";
   cin >> choice;

   switch (choice)
   {
   case 1:
      pushFunction();
      break;

   case 2:
      popFunction();
      break;

   case 3:
      showFunction();
      break;

   case 4:
      endFunction();
      break;

   default:
      cout << "Something went wrong";
      cout << "\nPress any key to continue";
      fflush(stdin);
      getchar();
      main();
   }
}
```

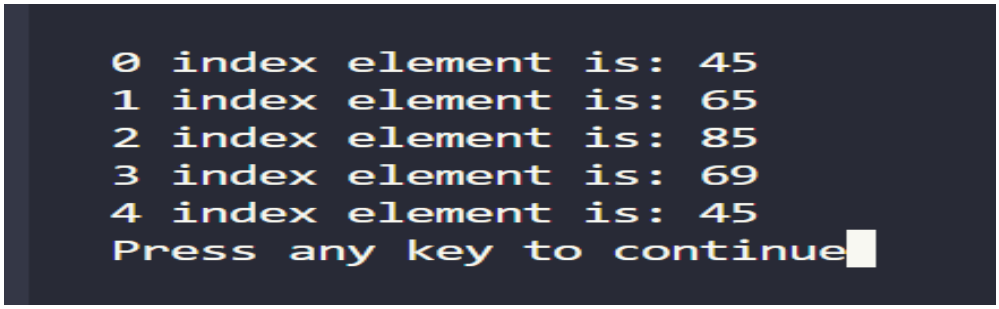
Output: First interface of program



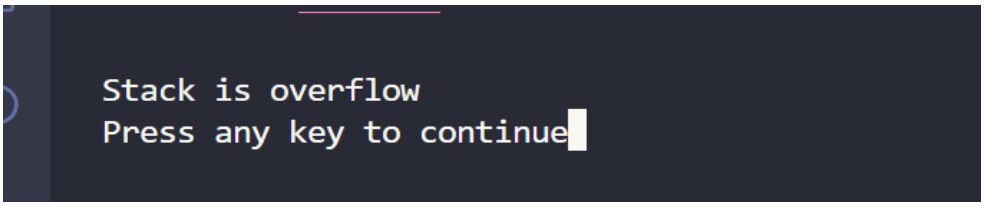
Output: When we choice option 1 (Push)



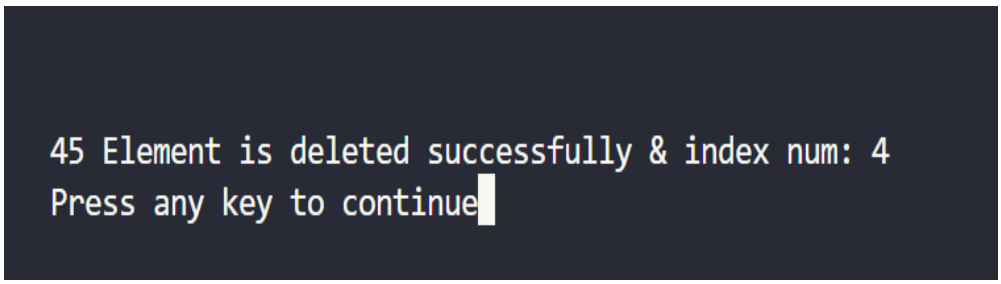
Output: When we choice option 3 (show)



Output: When we choice again option 1 (push)



Output: When we choice option 2 (pop)



Output: When we choice option 24(end)