Lab Program - 1

```
#include <stdio.h>
#define size 5
int top = -1;
void push(int [], int);
int pop(int []);
void display(int []);
int main()
{
    int a[5];
    int choice, element;
    int ch;
    do
    {
        printf("Enter your choice : \n");
        printf("1. Push \n");
        printf("2. Pop \n");
        printf("3. Display \n");
        scanf("%d", &choice);
        switch(choice)
        {
            case 1: printf("Enter the element to be
                            pushed : \n");
                    scanf("%d", &element);
                    push(a, element);
                    break;
            case 2: element = pop(a);
                    if(element == -1)
                    printf("Stack Underflow \n");
                    else
                    printf("Poped Element is %d",
                                    element);
                    break;
```

```
        case 3: display(a); break;
        default: printf("Incorrect choice\n");
    }
    printf("Do you still want to continue:
    scanf("%d", &ch);
} while(ch == 1);
return 0;
}

void push(int a[], int ele)
{
  if (top == size-1)
    printf("Stack OVERFLOW! Cannot push\n");
  else
  {
    top++;
    a[top] = ele;
  }
}

int pop(int a[])
{
  int ele;
  if (top == -1)
    return -1;
  else
  {
    ele = a[top];
    top--;
    return ele;
  }
}
```

```
void display(int a[])
{
    int i;
    printf("The contents of the Stack are :\n");
    for(i=top; i>=0; i--)
        printf("%d\t", a[i]);
    printf("\n");
}
```