Lab Program - 1

Q1) Write a program to simulate the working of stack using an array with push, pop and display. The prog should print appropriate program outputs for stack underflow and overflow conditions.

```
#include<stdio.h>
#include<

#define STACK_SIZE 5
int top=-1;
int s[10];
int item;
void push()
{
  if(top==STACK_SIZE-1)
    { printf("Stack overflow \n");
      return;
    }
top=top+1;
s[top]=item;
}
int pop()
{ if(top==-1)
   return -1;
```

```
return s[top--];
}
void display()
{ int i;
  if(top==-1)
   { printf("Stack is empty");
     return;
   }
 printf("Contents of the stack are");
 for(i=0; i<=top; i++)
   { printf("%d \n", s[i]);
}}
 void main()
{ int item_deleted;
  int choice;
  for(;;)
{
   printf("\n 1. Push \n 2. Pop \n 3. Display
    \n 4. Exit");
   printf("\n Enter your choice");
switch(choice);
   scanf("%d \n", &choice);
 switch(choice)
 {
   case 1: printf("Enter the item to be
   inserted \n");
   scanf("%d", &item);
   push();
```

```
break;
case 2: printf
item_deleted = pop();
if(item_deleted == -1)
printf("Stack is empty");
else
printf("Item deleted is %d \n", item_deleted);
break;
case 3: display();
break;
default: exit(0);
}}}
```