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NAME: SAIPRAVEEN MARNI
USN: 1BM19CS138

LAB-PROGRAM : 1

① Write a program to simulate working of stack using an array with the following push, pop, Display. The program should present the overflow using Array.

```
#include<stdio.h>
# 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\n");
     return;
}
```

```
Printf ("Contents of the stack \n");
for (i=top ; i>=0 ; i--)
{
printf ("%d \n", s[i]);
}
}
void main()
{
int item_deleted;
int choice;
clrscr();
for(;;)
{
printf ("\n 1: push \n 2: pop \n 3: display \n");
printf ("Enter the choice \n");
scanf ("%d", &choice);
Switch (choice)
{
case 1: printf ("Enter the item to be inserted \n");
scanf ("%d", &item);
push();
break;
Case 2: item_deleted = pop();
if (item_deleted == -1)
printf ("Stack is empty \n");
else
printf ("item deleted is %d \n", item_deleted);
break;
Case 3: display();
break;
default: exit(0);
}
}
getch();
}
```