

Data Structures-CSA0396

10. Write a C program to implement Stack operations such as PUSH, POP and PEEK

Coding:

```
#include<stdio.h>

int size,top = -1;

void push(int s[]){
    if(top == size){
        printf("Insertion Not Possible.");
    }
    else{
        int x;
        printf("Enter Element to be Inserted : ");
        scanf("%d", &x);
        top = top + 1;
        s[top] = x ;
    }
}

void pop(int s[]){
    if(top == -1){
        printf("Stack Is Empty. Popping Not Possible");
    }
    else{
        printf("Popped Element : %d ", s[top]);
        top = top - 1;
    }
}
```

```
void display(int s[]){
if(top == -1){
printf("Stack is Empty.\n");
}
else{
printf("Current Stack : \n");
for(int i = 0;i<=top;i++){
printf("%d\t", s[i]);
}
}
}

int main(){
int choice;
printf("Enter Array Size : ");
scanf("%d", &size);
int stack[size];
printf("\nOperations Available \n");
printf("1. Push \n2. Pop \n3. Display");
while(1){
printf("\nEnter Choice : ");
scanf("%d", &choice);
switch(choice){
case 1:
push(stack);
break;
case 2:
pop(stack);
break;
```

```
case 3:
display(stack);
break;
default:
printf("Invalid Choice. \n");
}
}
}
```

Output:

 "E:\Data Structures\Stack operations.exe"

```
Operations Available
1. Push
2. Pop
3. Display
Enter Choice : 1
Enter Element to be Inserted : 2

Enter Choice : 1
Enter Element to be Inserted : 3

Enter Choice : 1
Enter Element to be Inserted : 4

Enter Choice : 1
Enter Element to be Inserted : 5

Enter Choice : 1
Enter Element to be Inserted : 6

Enter Choice : 3
Current Stack :
2      3      4      5      6
Enter Choice : 2
Popped Element : 6
Enter Choice : 2
Popped Element : 5
Enter Choice : 3
Current Stack :
2      3      4
```