ERP:2203031260267

Program 1
Definition

```
// Online C compiler to run C program online
#include <stdio.h>
int stack[100],choice ,n,top,x,i;

void push(void);
void pop(void);
void display (void);

void main()
{
   top=-1;
   printf("\n Enter the size of STACK[Max=100]:");
   scanf ("%d",&n);
   printf("\n\t stack operations using ARRAY");
   printf("\n\t----------------");
   printf("\n\t 1.push 2.pop 3.display\n\t 4.Exit");
   do
   {
      printf("\n Enter the choice :");
      scanf("%d",&choice);
      switch(choice)
      {
       case1:
        {
            push();
            break;
        }
        case2:
        {
        pop();
        break;
      }
      case 3:
      {
        display();
        break;
      }
      case 4:
      {
```

```
            printf("\n\t exit point");
            break;
        }
        default:
        {
            printf("\n\t please enter a valid choice(\1\2\3\4");
        }
        }
    }
    while(choice!=4);
}
void push()
{
    if (top>=n-1);
    else
    {
        printf("enter a value to be pushed:");
        scanf("%d",&x);
        top++;
        stack[top]=x;
    }
}

void pop()
{
    if (top<=-1)
    {
        printf("\n\tStack is under flow");
    }
    else
    {
        printf ("\n\t the popped element is %d",stack[top]);
        top--;
    }
}
void display()
{
    if (top>=0)
    {
        printf("\n the elements in stack \n");
        for (i=top; i>=0; i--)
        printf("\n%d",stack[i]);
        printf("\n press next choice");
    }
```

```
    else
{
    printf("\n the stack is empty");
}
}
```

Out put;

```
Enter the size of STACK[Max=100]
Enter the size of STACK[Max=100]:4
stack operations using ARRAY
            ----------
             1.push 2.pop 3.display
             4.Exit
 Enter the choice :1
 please enter a valid choice(
 Enter the choice :2
 please enter a valid choice(
 Enter the choice :3
 the stack is empty
 Enter the choice :4
 exit point
```