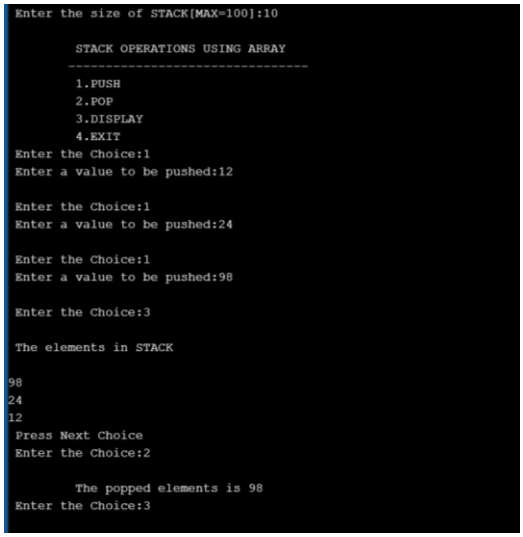
PROGRAM—1

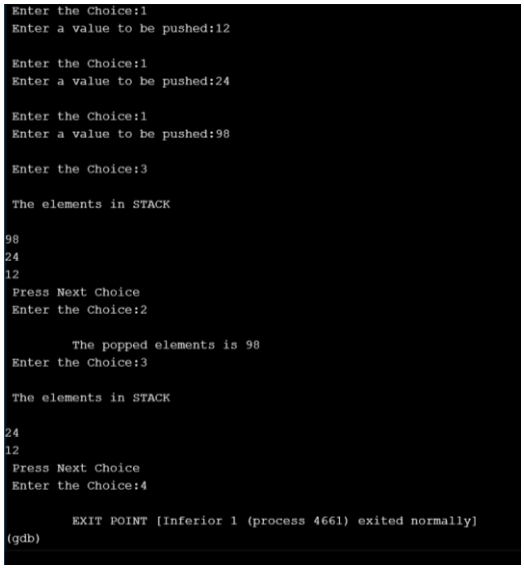
```
#include<stdio.h>

int stack[100],choice,n,top,x,i;

void push(void);

void pop(void);

void display(void);

int main()

{

   //clrscr();

   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\n\t 2.POP\n\t 3.DISPLAY\n\t 4.EXIT");

   do

   {

      printf("\n Enter the Choice:");

      scanf("%d",&choice);

      switch(choice)

      {

         case 1:

         {

            push();

            break;

         }

         case 2:

         {
```

```
            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);
   return 0;
}
void push()
{
   if(top>=n-1)
   {
      printf("\n\tSTACK is over flow");
```

```
    }
    else
    {
        printf(" Enter a value to be pushed:");
        scanf("%d",&x);
        top++;
        stack[top]=x;
    }
}
void pop()
{
    if(top<=-1)
    {
        printf("\n\t Stack is under flow");
    }
    else
    {
        printf("\n\t The popped elements 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");
    }

}
```





PROGRAM:2

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

```
#include<stdlib.h>
#include<conio.h>
#define STACK_SIZE 5
int top=-1;
void push(int item,int s[],int*top)
{
   if(*top==STACK_SIZE-1)
{
   printf("stack overflow\n");
   return;
}
*top=*top+1;
s[*top]=item;
}
int pop(int s[],int*top)
{
   int item_deleted;
   if(*top==-1)
   {
      printf("stack underflow,cannot delete\n");
      return 0;
   }
   item_deleted=s[*top];
   *top=*top-1;
   return item_deleted;
}
void display(int top,int s[])
```

```
{
   int i;
   if(top==-1)
   {
      printf("stack is empty\n");
      return;
   }
   printf("contents of the stack\n");
   for(i=0;i<=top;i++)
   {
      printf("%d\n",s[i]);
   }
}
void main()
{
   int item,s[10];
   int item_deleted;
   int choice;
   clrscr();
   for(i)
   {
      printf("\n 1:push |n 2:pop \n 3:display \n 4:exit \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(item,s,&top);
            break;
            case 2: item_deleted 1= pop(s,&top);
            if(item_deleted!=0)
            printf("item deleted id %d\n",item_deleted);
            break;
            case 3:display(top,s);
            break;
            default:exit(0);
        }
    }
    getch();
}
```