```
//lab program 1
#include <stdio.h>
#include <conio.h>
#define stack_size 5
int top=-1;
int s[10];
int item;
void push()
{
   if(top==stack_size-1)
   {
      printf("stack overflow");
      return;
   }
   else
   {
      top=top+1;
      s[top]=item;

   }
}
int pop()
{
   if(top==-1)
   {
      return -1;
   }
   else
   {
      return s[top--];
   }
```

```
}
void display()
{
   int i;
   if(top==-1)
   {
      printf("Stack empty");
      return;
   }
   else
   {
   printf("Contents of stack \n");
   for(i=top;i>=0;i--)
   {
      printf("%d\n",s[i]);
   }
   }
}

int main()
{
   int item_deleted;
   int choice;
   for(;;)
   {
      printf("\n1.push 2.pop 3.display 4.exit \n");
      printf("enter choice \n");
      scanf("%d",&choice);
      switch(choice)
      {
         case 1:printf("Enter Item : ");
```

```
            scanf("%d",&item);
            push();
            break;
        case 2:item_deleted=pop();
            if(item_deleted==-1)
            {
              printf("stack empty \n");
            }
            else
            {
              printf("item deleted is %d\n",item_deleted);
            }
            break;
        case 3:display();
            break;
        default:exit(0);

    }
}
getch();
```

input

```
1.push 2.pop 3.display 4.exit
enter choice
1
Enter Item : 10

1.push 2.pop 3.display 4.exit
enter choice
1
Enter Item : 20

1.push 2.pop 3.display 4.exit
enter choice
2
item deleted is 20

1.push 2.pop 3.display 4.exit
enter choice
3
Contents of stack
10

1.push 2.pop 3.display 4.exit
enter choice
4


...Program finished with exit code 0
```

Lab program:

```
#include <stdio.h>
#include <process.h>
#include <conio.h>
#define STACK_SIZE 5
int top = -1;
int s[10];
int item;
void push()
{
  if (top == stack_size - 1)
{
   printf("stack overflow\n");
else return;
}
top = top+1;
s[top] = item;
}
int pop()
{
  if (top == -1) return -1;
  return s[top--];
}
void display()
{
   unit i;
   if (top == -1)
{
    printf("stack is empty\n");
else  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;
   for(;;)
  {
   printf("\n 1. push \n 2. pop \n 3. display \n 4. exit \n");
   printf("Enter choice \n");
   scanf("%d", &choice);
   switch(choice)
   {
    case 1: printf("enter the item");
          scanf("%d", &item);
          push();
          break;
    case 2: item_deleted = pop();
          if (item_deleted == -1)
          printf("Stack empty\n");
          else.
          printf("item deleted is %d \n", item_deleted);
          break;
     case 3: display();
          break;
     default: exit(0);
   }
   }
   getch();
}
```

o/p

1. Push 2. pop 3. display 4. exit.
enter choice
1
Enter ~~choice~~ item: 10

1. Push 2. pop 3. display 4. exit
Enter choic
1.
Enter item : 20

1. Push 2. pop 3. display 4. exit
enter choice
2
item deleted is 20

1. push 2. pop 3. display 4. exit
enter choice
3
Contents of stack
10

1. push 2. pop 3. display 4. exit
Enter choice
4.