

23/09

Write a program to simulate the working of stack using an array with the following:

- a) Push
- b) Pop
- c) Display

The program should print appropriate messages for stack overflow, stack underflow.

~~to updated the~~

```
#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");
        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 empty\n");  
        return;  
    }
```

```
    printf("Contents of stack\n");  
    for(i=0; i<=top; i++)  
    {  
        printf("%d\n", s[i]);  
    }
```

```
void main ( )
```

```
{  
    int itemdeleted;  
    int choice;  
    for(;;)  
    {  
        printf("\n1.Push\n2.Pop\n3.Display\n4.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 ();

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();

}