

Stack implementation using arrays

```
#include<stdio.h>
#define stack_size 5
int top =-1;
int s[10],item;
void push()
{
    if (top==stack_size-1)
    {
        printf("Stack overflow!! cannot push item. \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 is empty. \n");
    }
    printf("The contents of the stack : \n");
    for(i=top;i>=0;i--)
        printf("%d  ",s[i]);
}

int main()
{
    int deleted, choice;
    for(;;)
    {
        printf("MENU \n1 Push\n1  Pop \n3  Display\n4Exit \n");
        printf("enter your choice : ");
        scanf("%d",&choice);
        switch (choice)
        {
            case 1:
                printf("enter the item to be inserted : ");
                scanf("%d",&item);
                push();
                break;
            case 2:
                deleted=pop();
                if(deleted==-1)

```

```

                                printf("Stack underflow!! cannot
pop item. \n");
                                else
                                printf("the item deleted is %d
\n",deleted);
                                break;
                                case 3 :
                                display();
                                break;
                                default :
                                exit(0);
                                }
                                }
                                }

```

Output:

```
MENU
1 Push
1 Pop
3 Display
4Exit
enter your choice : 1
enter the item to be inserted : 8
MENU
1 Push
1 Pop
3 Display
4Exit
enter your choice : 1
enter the item to be inserted : 2
Stack overflow!! cannot push item.
MENU
1 Push
1 Pop
3 Display
4Exit
enter your choice : 3
The contents of the stack :
8 5 9 7 1 MENU
1 Push
1 Pop
3 Display
4Exit
enter your choice : 2
the item deleted is 8
MENU
1 Push
1 Pop
3 Display
4Exit
enter your choice : 3
The contents of the stack :
5 9 7 1 MENU
1 Push
1 Pop
3 Display
4Exit
enter your choice : 4
```

```
MENU
1 Push
1 Pop
3 Display
4Exit
enter your choice : 2
Stack underflow!! cannot pop item.
MENU
1 Push
1 Pop
3 Display
4Exit
enter your choice : 7

-----
Process exited after 16.28 seconds with return value 0
Press any key to continue . . .
```