

## STACK ARRAY

```
include<stdio.h>
int a[50],top=-1,size,choice=0,i;
void push();
void pop();
void display();
void sttop();
void main()
{
clrscr();
printf("enter the number of elements in the stack\n");
scanf("%d",&size);
while(choice!=5)
{
printf("\nselect an operation \n");
printf("\n1.push \n2.pop \n3.display \n4.Stack top \n5.exit");
printf("\nenter your choice");
scanf("%d",&choice);
switch(choice)
{
case 1:
{
push();
break;
}
case 2:
{
pop();
break;
}
case 3:
{
display();
break;
}
case 4:
{
sttop();
break;
}
case 5:
{ printf("Exiting...");

break;
}
default:
printf("invalid");
}
}
```

```

}

void push()
{
int item;
if(top>size-1)
printf("the stack is full");
else
{
printf("enter the element to be inserted");
scanf("%d",&item);
top=top+1;
a[top]=item;
}
}
void pop()
{
if(top== -1)
printf("the stack is empty");
else
{
top=top-1;
}
}
void display()
{
for(i=top;i>=0;i--)
{
printf("%d\t",a[i]);
}
if(top== -1)
{
printf("stack is empty");
}}
void sttop()
{ int item;
if(top== -1)
{ printf("\n Stack is empty...");
}
else

printf("\n%d",a[top]);
}

```

## OUTPUT

```
2.pop
3.display
4.Stack top
5.exit
enter your choice1
enter the element to be inserted3

select an operation

1.push
2.pop
3.display
4.Stack top
5.exit
enter your choice1
enter the element to be inserted4

select an operation

1.push
2.pop
3.display
4.Stack top
5.exit
enter your choice1_
```

```
1.push
2.pop
3.display
4.Stack top
5.exit
enter your choice1
enter the element to be inserted5
```

```
select an operation
```

```
1.push
2.pop
3.display
4.Stack top
5.exit
enter your choice3
5      4      3
select an operation
```

```
1.push
2.pop
3.display
4.Stack top
5.exit
enter your choice
```

```
1.push
2.pop
3.display
4.Stack top
5.exit
enter your choice2
```

select an operation

```
1.push
2.pop
3.display
4.Stack top
5.exit
enter your choice3
```

```
4      3
select an operation
```

```
1.push
2.pop
3.display
4.Stack top
5.exit
enter your choice
```

```
1.push
2.pop
3.display
4.Stack top
5.exit
enter your choice1
enter the element to be inserted78
```

select an operation

```
1.push
2.pop
3.display
4.Stack top
5.exit
enter your choice3
78      7      4      3
select an operation
```

```
1.push
2.pop
3.display
4.Stack top
5.exit
enter your choice_
```

```
1.push
2.pop
3.display
4.Stack top
5.exit
enter your choice3
78      7      4      3
select an operation
```

```
1.push
2.pop
3.display
4.Stack top
5.exit
enter your choice4
```

```
78
select an operation
```

```
1.push
2.pop
3.display
4.Stack top
5.exit
enter your choice
```