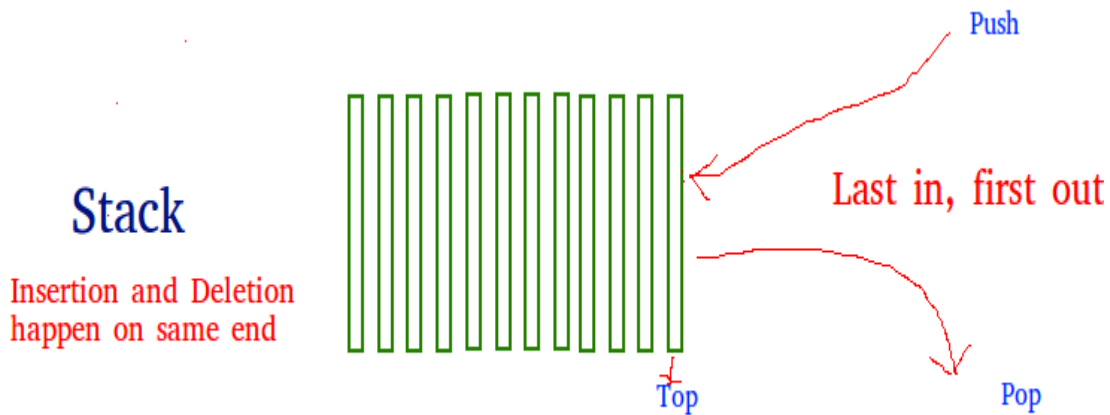


DATA STRUCTURE

Stack is a linear data structure which follows a particular order in which the operations are performed. The order may be LIFO(Last In First Out) or FILO(First In Last Out).



There are many real-life examples of a stack. Consider an example of plates stacked over one another in the canteen. The plate which is at the top is the first one to be removed, i.e. the plate which has been placed at the bottommost position remains in the stack for the longest period of time. So, it can be simply seen to follow LIFO(Last In First Out)/FILO(First In Last Out) order.

a *stack* is an [abstract data type](#) that serves as a [collection](#) of elements, with two principal operations:

- **push**, which adds an element to the collection, and
- **pop**, which removes the most recently added element that was not yet removed.

PROGRAM:

```
#include<stdio.h>

#include<conio.h>

#include<process.h>

#define SIZE 5

int menu()
{
    int choice;

    clrscr();
```

DATA STRUCTURE

```
printf("MENU");

printf("\n 1.PUSH");

printf("\n 2.POP");

printf("\n 3.SHOW");

printf("\n 4. EXIT");

printf("\n INPUT YOUR CHOICE");

scanf("%d",&choice);

return choice;

}

////////////////////////////////////

void main()

{

    int arr[SIZE],top=-1,index;

    while(1)

    {

        switch(menu())

        {

            case 1:

                if(top==SIZE-1)

                {

                    printf("STACK IS FULL");

                }

                else

                {

                    top=top+1;

                    printf("Input the data :");

                }

            }

        }

    }

}
```

DATA STRUCTURE

```
        scanf("%d",&arr[top]);
    }
    getch();
    break;
case 2:
    if(top== -1)
    {
        printf("STACK IS EMPTY");
    }
    else
    {
        printf("POPED ITEM =%d",arr[top]);
        top=top-1;
    }
    getch();
    break;
case 3:
    for (index=0;index<=top;index++)
    {
        printf("\n%d",arr[index]);
    }
    getch();
    break;
case 4:
    exit(1);
default:
```

DATA STRUCTURE

```
printf("INVALID CHOICE");
```

```
getch();
```

```
    }
```

```
  }
```

```
}
```