

- **Peek** : Viewing the top most element present in a stack is known as peek. Its functionality is similar to pop, the only difference is that in pop operation we remove the top most element but in peek we just return the top most element's value and we do not remove it. This operation is also not feasible if the stack is empty.

Stack class in JAVA :

Java Collection framework provides a Stack class that models and implements a Stack data structure. The class is based on the basic principle of last-in-first-out. In addition to the basic push and pop operations, the class provides three more functions of empty, search, and peek.

Syntax of defining a stack :

In order to create a stack, we must import the "java.util.Stack" package and use the Stack() constructor of this class. The below example creates an empty Stack.

```
Stack<datatype> stack_name = new Stack<>();
```

Q1. write a program to implement various functionalities of a stack, including push, pop and peek.

Solution :

Code : [LP_Code1.java](#)

Output :

```
The peek element of the stack is : 1
The peek element of the stack is : 5
The peek element of the stack is : 3
The stack elements are as follows : [1, 3]
```

Approach :

The stack looks as follows after first two the push operations have been performed:

```
| 2 |
|_1_|
```

Here the peek element is 2.

Then we popped the element.

Hence stack looks like :

```
|_1_|
```

Now we inserted the elements 3, 5

```
| 5 |
| 3 |
|_1_|
```

Again we popped the element.

Hence stack looks like :

```
|  |
|  |
| 3 |
|_1_|
```