

Float is bigger than Long because

it stores as  
value  $\times 10^9$

## # Methods of Scanner class

method name	return type
nextByte()	byte
nextShort()	Short
nextInt()	int
nextLong()	long
nextFloat()	float
nextDouble()	double
nextBoolean()	boolean
next()	String
nextLine()	String

- out  $\rightarrow$  type of `PrintStream`
- in  $\rightarrow$  type of ~~`PrintStream`~~ `InputStream`.

```

Eg:  $\rightarrow$  import java.util.Scanner;
    class Sample
    {
        public static void main(String args[]) {
            Scanner sc = new Scanner(System.in);
            System.out.println("Enter roll no:");
            int byte b = sc.nextByte();
            System.out.println("Enter Subject code:");
            Short s = sc.nextShort();
            System.out.println("Enter Enrollment No:");
            int i = sc.nextInt();
            System.out.println("Enter PRN No:");
            Long l = sc.nextLong();
            System.out.println("Enter Percentage:");
            float f = sc.nextFloat();
            double double d = sc.nextDouble();
        }
    }

```

Data is stored in Buffer memory.  
object is stored in heap memory.

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Eg:

```
import java.util.Scanner;
class ScannerEx
{
    public static void main (String args[])
    {
        Scanner sc = new Scanner (System.in);
        System.out.print ("Enter a String");
        String str = sc.next(); // HELLO JAVA
        System.out.println(str); // HELLO

        System.out.println ("Enter a String:");
        String str2 = sc.nextLine(); // RAMESH KUDIAR
        System.out.println(str2); // RAMESH KUDIAR
    }
}
```

- The next() method is used to fetch only a single word from a user entered string.
- The first word is nothing but the character sequence till a space.
- The nextLine() method fetches the whole string as it is, as from the user.

Eg : class Sample

{

main()

{

Scanner sc = new Scanner (System.in);

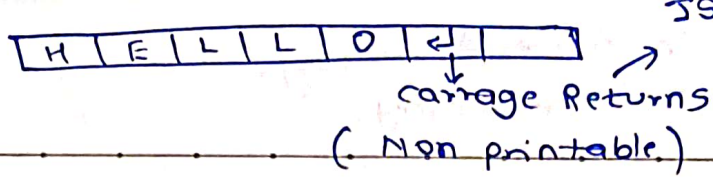
String s1 = sc.next();

~~String s1 =~~ sc.nextLine();

String s2 = sc.nextLine();

}

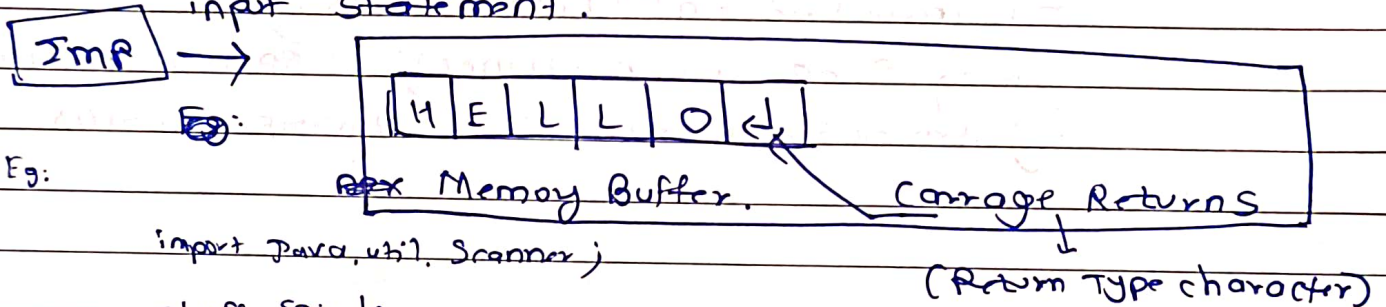




Explanation:

- The String input is stored inside a buffer object
- when we use next() method it fetch a single word from that buffer and other remaining characters remains as it is
- when we use nextLine(), this method fetch all the remaining String data from that buffer object.

Note: when we use next() method & then nextLine() method, the Scanner skips the input so, we have to use nextLine() method before the input statement.



```
import java.util.Scanner;
class Sample
{
```

```
    public static void main (String args[])
    {
```

```
        System.out.println ("welcome")
```

```
        Scanner sc = new Scanner (System.in);
```

```
        char ch = sc.next().charAt(0);
```

```
        System.out.println(ch);
```

```
        System
```

```
        System.out.print ("Enter a character");
```

```
        char ch = sc.next().charAt(0);
```

```
        System.out.println (ch);
```

```
        System.out.print ("Enter a character");
```

```
        char ch = sc.next().charAt(0);
```

```
        System.out.println(ch);
```

```
    }
```

```
}
```

## # Difference between function & method.

~~If function is inside~~

if a function is outside the class then it is called as function, and if a function is declared inside the class then it is called as method.

We don't have any support to Scanner class to fetch a char type of data from a user.

The String class contains a method to fetch a character from a String using index.

[Index in programming language start from 0 to till length-1].

If we try to fetch a character from an invalid index.

[Invalid index ~~is~~ less than zero & greater than or equals to length]

we get a runtime exception that is "StringIndexOutOfBoundsException" exception.