

Unit – II Building Blocks of Language

❖ Command Line Argument

- The java command-line argument is an argument which is passed at the time of running the java program.
- The arguments passed from the console can be received in the java program and it can be used as an input.
- So, it provides a convenient way to check the behaviour of the program for the different values.
- You can pass N (1,2,3 and so on) numbers of arguments from the command prompt.

To print single argument

```
class CommandLineExample
{
    public static void main(String args[])
    {
        System.out.println("Your first argument is: "+args[0]);
    }
}
```

Output:

Your first argument is: Hello

To print multiple arguments

```
class A
{
    public static void main(String args[])
    {
        for(int i=0;i<args.length;i++)
            System.out.println(args[i]);
    }
}
```

Output:

Hello

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❖ Garbage Collection in JAVA

- In java, **garbage means unreferenced objects.**
- **Garbage Collection is process of reclaiming the runtime unused memory automatically. In other words, it is a way to destroy the unused objects.**
- To do so, we were using free() function in C language and delete() in C++.
- But, in java it is performed automatically. So, java provides **better memory management.**

Advantage of Garbage Collection

- It makes java **memory efficient** because garbage collector removes the unreferenced objects from heap memory.
- It is automatically done by the garbage collector(a part of JVM) so we don't need to make extra efforts.

There are many ways for using garbage collection:

- 1) By nulling the reference
- 2) By assigning a reference to another
- 3) By anonymous object

1) By nulling a reference:

```
Employee e=new Employee();
```

```
e=null;
```

2) By assigning a reference to another:

```
Employee e1=new Employee();
```

```
Employee e2=new Employee();
```

```
e1=e2;//now the first object referred by e1 is available for garbage collection
```

3) By anonymous object:

```
new Employee();
```

finalize() method

The finalize() method is invoked each time before the object is garbage collected. This method can be used to perform cleanup processing. This method is defined in Object class as:

```
protected void finalize(){
```

gc() method

The gc() method is used to invoke the garbage collector to perform cleanup processing. The gc() is found in System and Runtime classes.

```
public static void gc(){
```

```
public class TestGarbage1
{
    public void finalize()
    {
        System.out.println("object is garbage collected");
    }

    public static void main(String args[])
    {
        TestGarbage1 s1=new TestGarbage1();
        TestGarbage1 s2=new TestGarbage1();
        s1=null;
        s2=null;
        System.gc();
    }
}
```

Output:

```
object is garbage collected
object is garbage collected
```