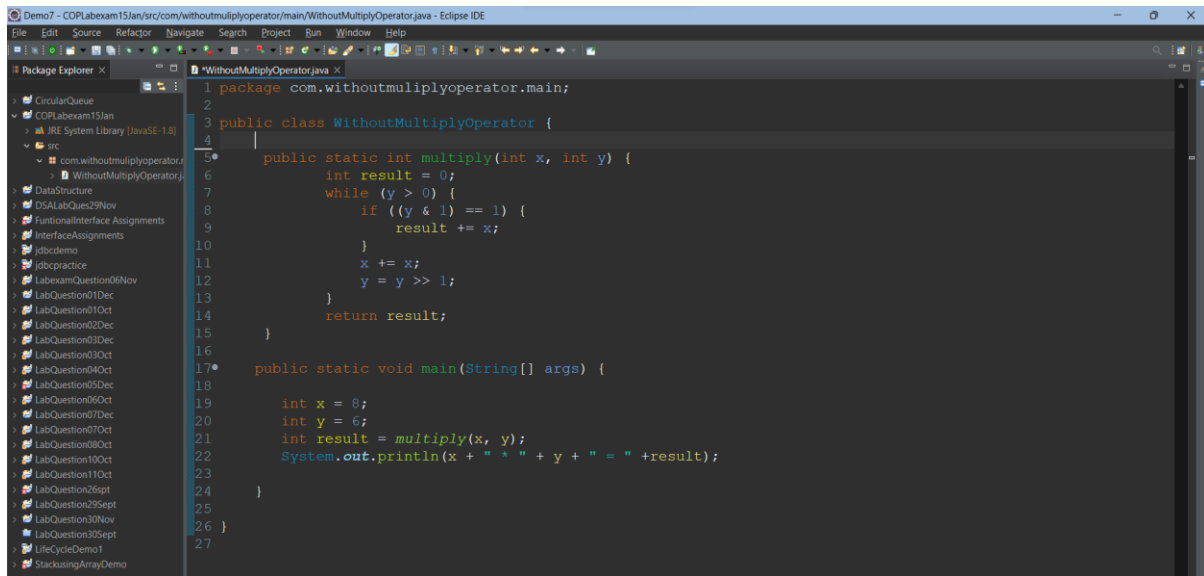
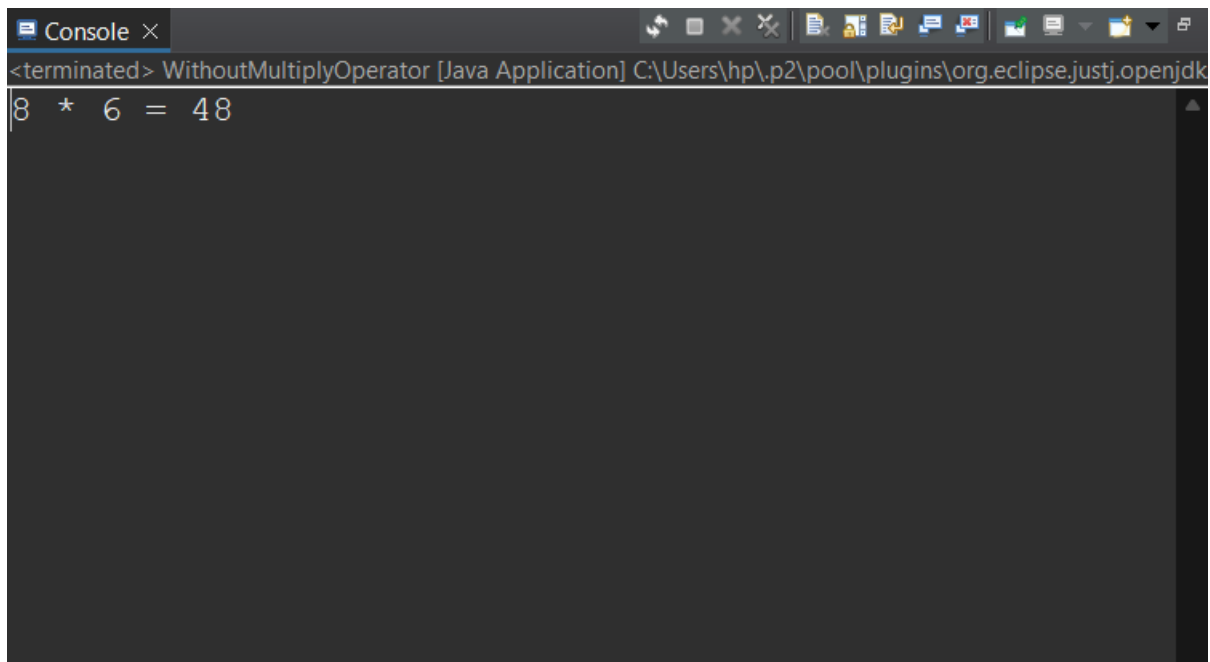


1. Write a program to multiply two given integers without using the multiply operator (\*).



```
1 package com.withoutmultiplyoperator.main;
2
3 public class WithoutMultiplyOperator {
4     public static int multiply(int x, int y) {
5         int result = 0;
6         while (y > 0) {
7             if ((y & 1) == 1) {
8                 result += x;
9             }
10            x += x;
11            y = y >> 1;
12        }
13        return result;
14    }
15
16    public static void main(String[] args) {
17        int x = 8;
18        int y = 6;
19        int result = multiply(x, y);
20        System.out.println(x + " * " + y + " = " + result);
21    }
22 }
23
24
25
26
27
```

• Output –



```
<terminated> WithoutMultiplyOperator [Java Application] C:\Users\hp\p2\pool\plugins\org.eclipse.justj.openjdk
8 * 6 = 48
```

2. Write a C program which Creates two threads where one displays contents of current folder and another thread creates a file.

- **Output -**

```
GNU nano 6.4 LabOSExam.c
#include <stdio.h>
#include <pthread.h>
#include <unistd.h>
#include <stdlib.h>

void* display_folder(void* arg) {
    system("ls -al");
    return NULL;
}

void* create_file(void* arg) {
    system("touch newfile.txt");
    return NULL;
}

int main() {
    pthread_t thread1, thread2;
    pthread_create(&thread1, NULL, &display_folder, NULL);
    pthread_create(&thread2, NULL, &create_file, NULL);
    pthread_join(thread1, NULL);
    pthread_join(thread2, NULL);
    return 0;
}
```

```
File Actions Edit View Help
(kali@kali)-[~]
$ nano LabOSExam.c
(kali@kali)-[~]
$ gcc LabOSExam.c
(kali@kali)-[~]
$ ./a.out
total 204
drwx----- 23 kali kali 4096 Jan 15 01:14 .
drwxr-xr-x  4 root root 4096 Dec 10 05:15 ..
drwxr-xr-x  2 kali kali 4096 Dec  9 01:28 anna
-rwxr-xr-x  1 kali kali 16144 Jan 15 01:14 a.out
-rw-r--r--  1 kali kali 220 Dec  5 08:43 .bash_logout
-rw-r--r--  1 kali kali 5551 Dec  5 08:43 .bashrc
-rw-r--r--  1 kali kali 3526 Dec  5 08:43 .bashrc.original
drwxr-xr-x  8 kali kali 4096 Dec 14 06:52 .cache
drwxr-xr-x 13 kali kali 4096 Dec 14 06:59 .config
drwxr-xr-x  2 kali kali 4096 Dec  9 01:25 Desktop
-rw-r--r--  1 kali kali 35 Dec  9 05:02 .dmrc
drwxr-xr-x  2 kali kali 4096 Dec  9 01:25 Documents
drwxr-xr-x  2 kali kali 4096 Dec  9 01:25 Downloads
-rw-r--r--  1 kali kali 11759 Dec  5 08:43 .face
lrwxrwxrwx  1 kali kali 5 Dec  5 08:43 .face.icon → .face
drwx----- 3 kali kali 4096 Dec  9 01:25 .gnupg
-rw----- 1 kali kali 0 Dec  9 01:25 .ICEauthority
drwxr-xr-x  3 kali kali 4096 Dec  5 08:43 .java
drwxr-xr-x  2 kali kali 4096 Dec 14 06:21 Lab13Dec
drwxr-xr-x  2 kali kali 4096 Dec 14 07:59 Lab14Dec
drwxr-xr-x  2 kali kali 4096 Dec 16 09:02 Lab16Dec
-rw-r--r--  1 kali kali 483 Jan 15 01:14 LabOSExam.c
drwxr-xr-x  3 kali kali 4096 Dec 12 05:08 LabQ09Dec
drwxr-xr-x  2 kali kali 4096 Dec 10 03:50 LabQ10Dec
drwx----- 3 kali kali 4096 Dec  9 01:25 .local
drwx----- 4 kali kali 4096 Dec 14 06:47 .mozilla
drwxr-xr-x  2 kali kali 4096 Dec  9 01:25 Music
-rw-r--r--  1 kali kali 0 Jan 15 01:12 newfile.txt
drwxr-xr-x  2 kali kali 4096 Dec 10 05:18 Pictures
```

```
-rw-r--r-- 1 kali kali      0 Jan 15 01:12 newfile.txt
drwxr-xr-x 2 kali kali  4096 Dec 10 05:18 Pictures
-rw-r--r-- 1 kali kali   807 Dec  5 08:43 .profile
drwxr-xr-x 2 kali kali  4096 Dec  9 01:25 Public
-rw-r--r-- 1 kali kali      0 Dec  9 05:12 .sudo_as_admin_successful
drwxr-xr-x 2 kali kali  4096 Dec  9 01:25 Templates
drwxr-xr-x 2 kali kali  4096 Jan 14 13:24 Test
-rw-r----- 1 kali kali      5 Jan 15 00:05 .vboxclient-clipboard.pid
-rw-r----- 1 kali kali      5 Jan 15 00:05 .vboxclient-display-svgx-x11.pid
-rw-r----- 1 kali kali      5 Jan 15 00:05 .vboxclient-draganddrop.pid
-rw-r----- 1 kali kali      5 Jan 15 00:05 .vboxclient-seamless.pid
drwxr-xr-x 2 kali kali  4096 Dec  9 01:25 Videos
-rw----- 1 kali kali     49 Jan 15 00:05 .Xauthority
-rw----- 1 kali kali  5857 Jan 15 01:08 .xsession-errors
-rw----- 1 kali kali  6093 Jan 14 13:27 .xsession-errors.old
-rw----- 1 kali kali   4133 Jan 14 13:27 .zsh_history
-rw-r--r-- 1 kali kali 10877 Dec  5 08:43 .zshrc
```