

EXPERIMENT NO. 11

Date: 21/09/23

Roll No.: B037

AIM:

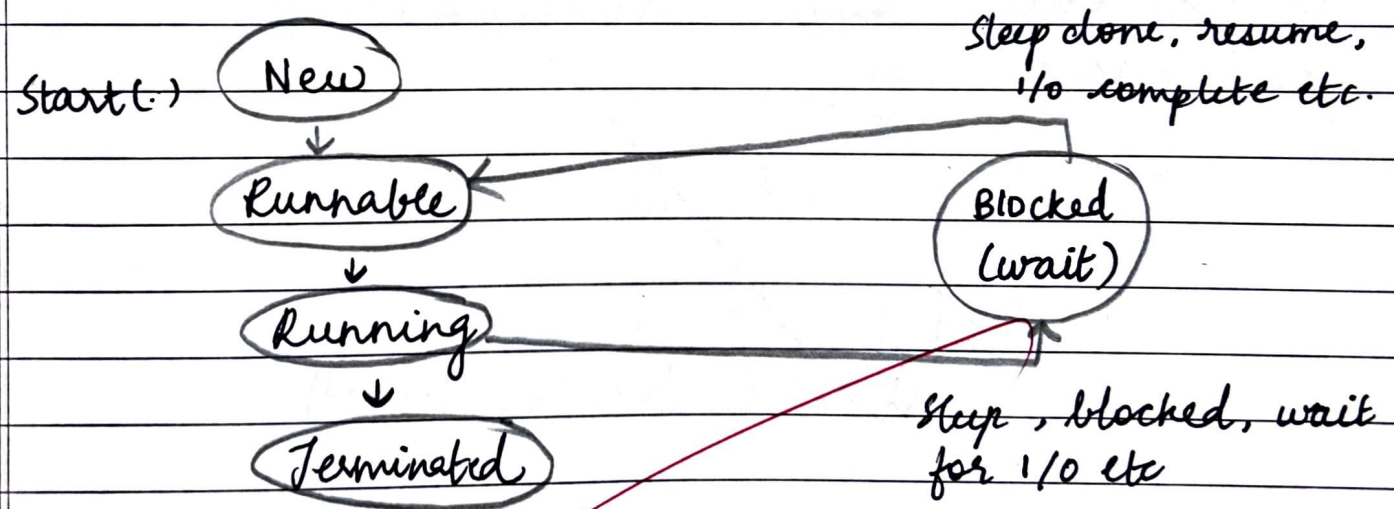
To create user defined threads to achieve multitasking

THEORY:

Thread:

A thread is a lightweight sub process, a smallest unit of processing.

Life Cycle of Thread:



Multithreading:

Multithreading in java is a process of executing multiple threads simultaneously.

Threads can be created using 2 mechanisms:

- Extending the Thread class
- Implementing the Runnable Interface

Output:

Main Thread id : 1

Our Thread id : 10

Main Thread id : 1

Our Thread id : 10

Main Thread id : 1

Our Thread id : 10

Main Thread id : 1

Our Thread id : 10

Our Thread id : 10

Main Thread id : 1

PROGRAM 1: (Method 1)

```
public class Main
{
```

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

```
        MultiThread ob = new MultiThread();
```

```
        obj.start();
```

```
        for (int i=0; i<5; i++)
        {
```

```
            System.out.println ("Main Thread id: " +
                                Thread.currentThread().
                                    getId());
        }
```

```
    }
```

```
class MultiThread extends Thread
```

```
{
```

```
    public void run()
```

```
    {
```

```
        for (int i=0; i<5; i++)
```

```
        {
```

```
            System.out.println ("New Thread id: " + Thread.
                                currentThread().getId());
        }
```

```
    }
```

```
}
```


Output:

Main Thread 1 is running

Our Thread 10 is running

Our Thread 10 is running

Main Thread 1 is running

Main Thread 1 is running

Our Thread 10 is running

Main Thread 1 is running

Main Thread 1 is running

Our Thread 10 is running

Our Thread 10 is running

// order does
depends on
// it's random

PROGRAM 2: [Method 2]

```
public class Main
{
```

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

```
        Multithread obj = new Multithread();
```

```
        Thread tr = new Thread(obj);
```

```
        tr.start();
```

```
        for (int i=0; i<5; i++)
        {
```

```
            System.out.println("Main Thread " + Thread.currentThread().
                                getId() + " is running");
```

```
        }
```

```
    }
```

```
}
```

```
class Multithread implements Runnable
{
```

```
    public void run()
    {
```

```
        for (int i=0; i<5; i++)
        {
```

```
            System.out.println("Our Thread " + Thread.currentThread().
                                getId() + " is running");
```

```
        }
```

```
    }
```

```
}
```

PROCEDURE:

Step 1: Start

Step 2: Open Notepad

Step 3: Write the code

Step 4: Compile the code in command prompt.

Step 5: Run the code in command prompt.

Step 6: Check the output.

Step 7: End

CONCLUSION:

Hence, we have created user defined threads to achieve multitasking.

~~8/8/23~~
~~05/16/23~~