

ASSIGNMENT 5

Assignment 5 on Session5: Collections**Problem Statement1:**

Write a simple Timer that can periodically print a timeout message.

Solution:

```
import java.awt.Toolkit;
import java.util.Timer;
import java.util.TimerTask;

import java.util.Date;
import java.util.Timer;
import java.util.TimerTask;

public class TimerTimeout extends TimerTask
{
    @Override
    public void run()
    {
        System.out.println("Timer task started at:"+new Date());
        completeTask();
        System.out.println("Timer task finished at:"+new Date());
    }
    private void completeTask()
    {
        try
        {
            //assuming it takes 20 secs to complete the task
            Thread.sleep(20000);
        }catch (InterruptedException e)
```

ASSIGNMENT 5

```
{
    e.printStackTrace();
}
}

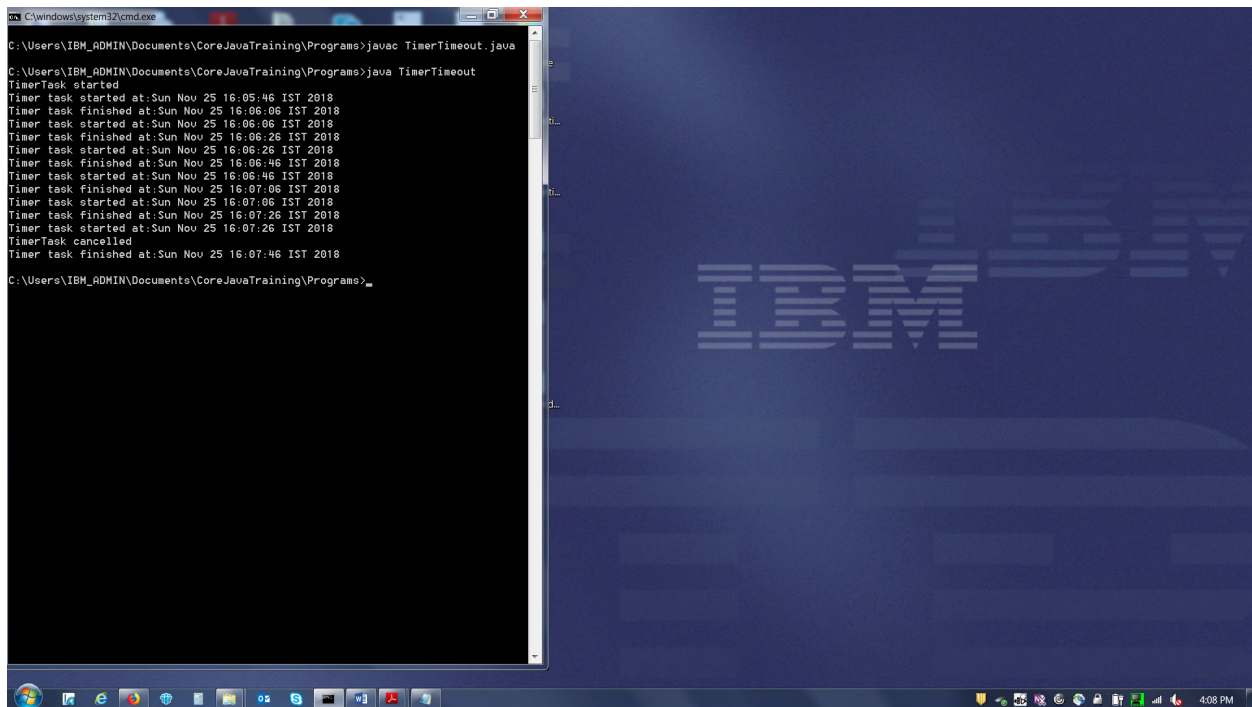
public static void main(String args[])
{
    TimerTask timerTask = new TimerTimeout();
    //running timer task as daemon thread
    Timer timer = new Timer(true);
    timer.scheduleAtFixedRate(timerTask, 0, 10*1000);
    System.out.println("TimerTask started");
    //cancel after sometime
    try
    {
        Thread.sleep(120000);
    }catch (InterruptedException e)
    {
        e.printStackTrace();
    }
    timer.cancel();
    System.out.println("TimerTask cancelled");
    try
    {
        Thread.sleep(30000);
    }catch (InterruptedException e)
    {
        e.printStackTrace();
    }
}
```

ASSIGNMENT 5

```
}  
  
}
```

Explanation of the code:

This program start and finish the time at the regular interval and print the messages accordingly.

Result flow & Screen shot:

```
C:\windows\system32\cmd.exe  
C:\Users\IBM_ADMIN\Documents\CoreJavaTraining\Programs>javac TimerTimeout.java  
C:\Users\IBM_ADMIN\Documents\CoreJavaTraining\Programs>java TimerTimeout  
TimerTask started  
Timer task started at:Sun Nov 25 16:05:46 IST 2018  
Timer task finished at:Sun Nov 25 16:06:06 IST 2018  
Timer task started at:Sun Nov 25 16:06:06 IST 2018  
Timer task finished at:Sun Nov 25 16:06:26 IST 2018  
Timer task started at:Sun Nov 25 16:06:26 IST 2018  
Timer task finished at:Sun Nov 25 16:06:46 IST 2018  
Timer task started at:Sun Nov 25 16:06:46 IST 2018  
Timer task finished at:Sun Nov 25 16:07:06 IST 2018  
Timer task started at:Sun Nov 25 16:07:06 IST 2018  
Timer task finished at:Sun Nov 25 16:07:26 IST 2018  
Timer task started at:Sun Nov 25 16:07:26 IST 2018  
TimerTask cancelled  
Timer task finished at:Sun Nov 25 16:07:46 IST 2018  
C:\Users\IBM_ADMIN\Documents\CoreJavaTraining\Programs>
```

ASSIGNMENT 5

Problem Statement2:

Write a program to build any collection containing duplicates. Create its copy with all duplicates removed.

Solution:

```
import java.util.ArrayList;
import java.util.HashSet;
import java.util.List;
import java.util.Set;

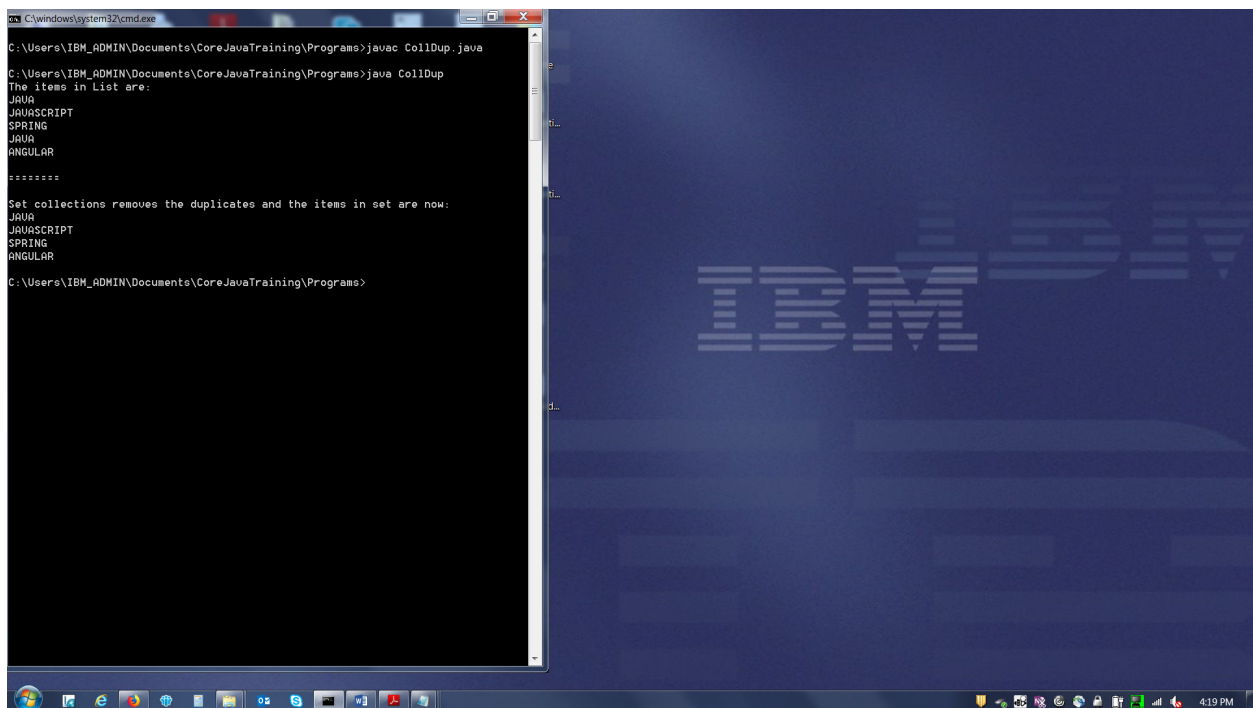
public class CollDup
{
    public static void main( String[] args )
    {
        List<String> list = new ArrayList<String>();
        list.add("JAVA");
        list.add("JAVASCRIPT");
        list.add("SPRING");
        list.add("JAVA");
        list.add("ANGULAR");
        System.out.println("The items in List are:");
        for (String temp : list)
        {
            System.out.println(temp);
        }
        System.out.println("\n===== ");
        Set<String> set = new HashSet<String>(list);
        System.out.println("\nSet collections removes the duplicates and the items in set are now:");
        for (String temp : set)
```

ASSIGNMENT 5

```
{  
    System.out.println(temp);  
}  
}  
}
```

Explanation of the code:

This program removes the duplicate strings.

Result flow and screen shot:

```
C:\Windows\system32\cmd.exe  
C:\Users\IBM_ADMIN\Documents\CoreJavaTraining\Programs>javac CollDup.java  
C:\Users\IBM_ADMIN\Documents\CoreJavaTraining\Programs>java CollDup  
The items in List are:  
JAVAJ  
JAVASCRIPT  
SPRING  
JAVAJ  
ANGULAR  
*****  
Set collections removes the duplicates and the items in set are now:  
JAVAJ  
JAVASCRIPT  
SPRING  
ANGULAR  
C:\Users\IBM_ADMIN\Documents\CoreJavaTraining\Programs>
```