North South University

Assignment-II

Topic: Multithreading

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Course: CSE 215
Section: 08
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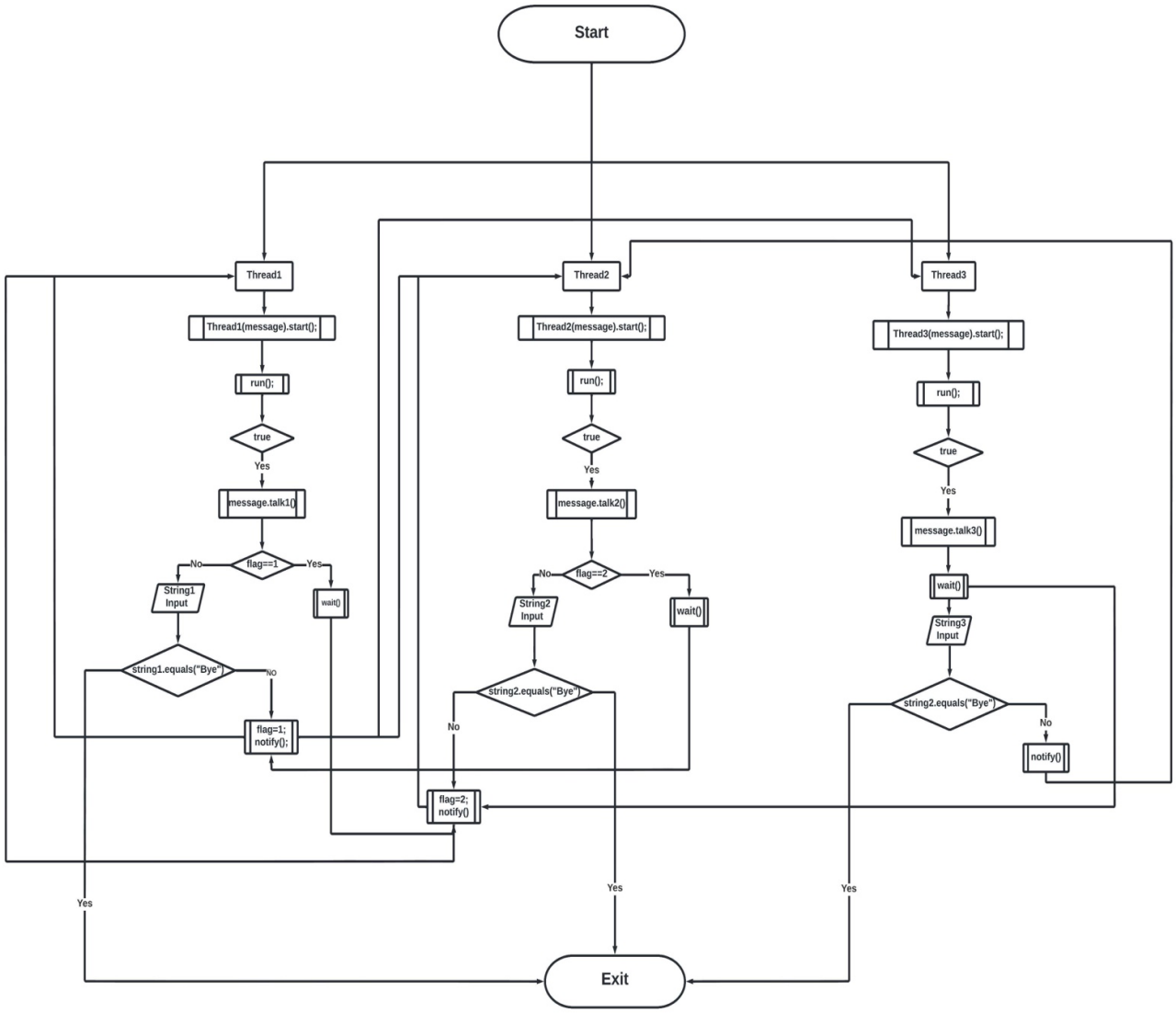
Flowchart:



Source Code:

```
package javachatsystem;
import java.util.Scanner;

class Chat {
   Scanner sc1= new Scanner(System.in);
   Scanner sc2= new Scanner(System.in);
   Scanner sc3= new Scanner(System.in);
   String string1, string2, string3;
```

```
int flag=0;

public synchronized void talk1() throws InterruptedException {
   if(flag==1) {
      wait();
   }

   System.out.print("Nabid :");
   string1 = sc1.nextLine();

   if(string1.equals("Bye")) {

      System.out.println("\n Nabid has left from the conversation");
      System.out.println("\tGroup discussion has ended.");

      System.exit(0);
   }

   flag=1;
   notify();
}

public synchronized void talk2() throws InterruptedException {

   if(flag==2) {
      wait();
   }

   System.out.print("Maria :");
   string2 = sc2.nextLine();

   if( string2.equals("Bye")) {

      System.out.println("\n Maria has left from the conversation.");
      System.out.println("\tGroup discussion has ended.");
      System.exit(0);

   }

   flag=2;
```

```
        notify();
    }

    public synchronized void talk3() throws InterruptedException {

        wait();

        System.out.print("Arjun :");
        string3 = sc3.nextLine();

        if(string3.equals("Bye")) {

            System.out.println("\n Arjun has left from the conversation.");
            System.out.println("\tGroup Discussion has ended.");
            System.exit(0);

        }

        notify();
    }
}

class Thread1 extends Thread {
    Chat message;

    public  Thread1(Chat message) {
        this.message=message;

    }

  public void run() {
        try {
            while(true) {

                message.talk1();
            }
        } catch(InterruptedException e) {
            e.printStackTrace();

        }
```

```
    }
}

class Thread2 extends Thread {
    Chat message;

    public Thread2(Chat message) {
        this.message=message;
    }

    public void run() {
        try {
            while(true) {
                message.talk2();
            }
        } catch(InterruptedException e) {
            e.printStackTrace();
        }
    }
}

class Thread3 extends Thread {
    Chat message;

    public Thread3(Chat message) {
        this.message=message;
    }

    public void run() {
        try {
            while(true) {
                message.talk3();
            }
        } catch( InterruptedException e) {
            e.printStackTrace();
        }

    }

}
```

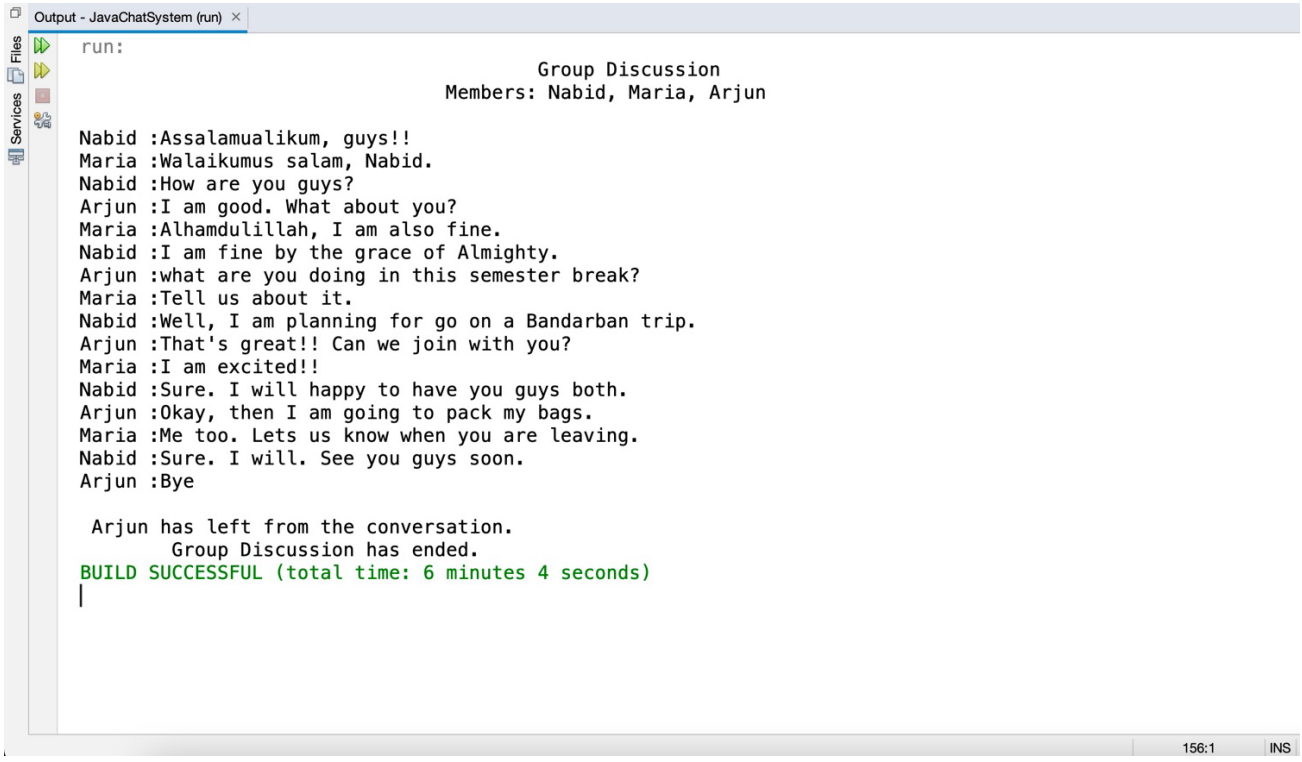
```
public class JavaChatSystem {

    public static void main(String[] args) {
        System.out.println("\t\t\t\t\tGroup Discussion ");
        System.out.println("\t\t\t\tMembers: Nabid, Maria, Arjun\n");

        Chat message = new Chat();

        new Thread1(message).start();
        new Thread2(message).start();
        new Thread3(message).start();

    }

}
```

Screenshot: