**********OUTPUT**********

Enter a number between 0-23 to denote HH in HH:mm 24 hour clock

3

Enter a number between 0-59 to denote MM in hh:MM 24 hour clock

17

This is hours: 3.0

This is mins: 17.0

Angle of minute hand from 12 o'clock: 102.0

Angle of hour hand from 12 o'clock: 98.5

Angle is: 4

** Process exited - Return Code: 0 **

**********CODE**********

*MINIMAL COMMENTS ARE KEPT IN ON THIS OCCASION

```
import java.util.Scanner;
import java.util.Arrays;
public class Main
{
   public static void main(String[] args) {
      double hours;
      double mins;
      clock c;
//do {
Scanner reader = new Scanner(System.in); // Reading from System.in
System.out.println("Enter a number between 0-23 to denote HH   in  HH:mm 24 hour clock");
hours = reader.nextInt(); // Scans the next token of the input as an int.
System.out.println("Enter a number between 0-59 to denote MM   in  hh:MM 24 hour clock");
mins = reader.nextInt(); // Scans the next token of the input as an int.
//once finished
reader.close();


System.out.println("\n");
// THE FUNCTION HAS TO START here

c= new clock(hours,mins);
}

}
```

```
class clock
{
   double hours; //counter
   double mins; //counter
   double degrees;
   double hr24Tohr12;
   double angleHour;
   double angleMinute;

   double angleH;
   double angleM;



public clock(double hours, double mins)
{
   this.hours=hours;
   this.mins=mins;
   double temp;

   if (hours>12)
   {
      hours=hours-12;

   }
   angleMinute = (mins/60)*360;

   angleHour  = ((hours/12)*360) + ((angleMinute/360)*30);

   System.out.println("This is hours: " + hours);
    System.out.println("This is mins: " + mins);
```

```
   System.out.println("Angle of minute hand from 12 o'clock: " + angleMinute);
   System.out.println("Angle of hour hand from 12 o'clock: " + angleHour);



      System.out.println("Angle is:  " +  Math.round(Math.abs(angleHour-angleMinute)));


   // This is now checking if there are any moments when angle between minute and hour hand is
ZERO


      for (int i=1;i<=12;i++)
      {
         for (int j=0;j<60;j++)
         {
            double k=i;
            double p=j;


            angleM = (p/60)*360;
            angleH = ((k/12)*360) + ((k/360)*30);



            temp=angleH-angleM;


            if (Math.abs(temp)==0)
            {
               System.out.println("hours: " + i);
               System.out.println("mins:" + j);


            }


         }
```

```
        }
    }
}
```