

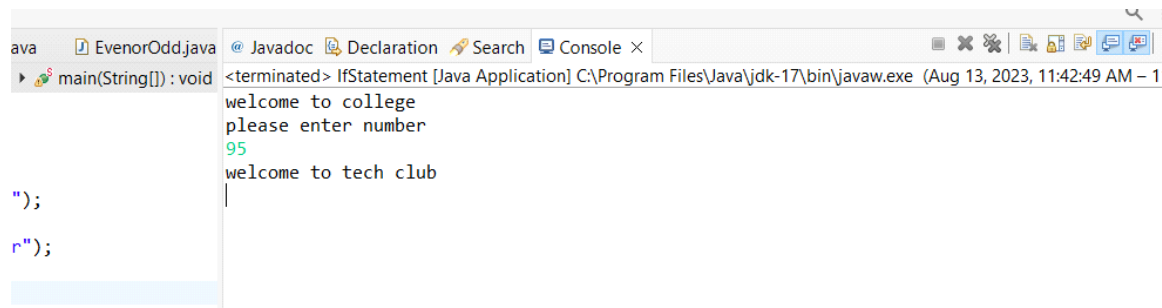
CONTROL CONSTRUCTS

Program 1:

If Statement:

```
import java.util.Scanner;
public class If Statement {
    public static void main(String[] args) {
        System.out.println("welcome to college");
        Scanner scan=new Scanner(System.in);
        System.out.println("please enter number");
        int marks=scan.nextInt();
        if(marks>90)
        {
            System.out.println("welcome to tech club");
        }
        // TODO Auto-generated method stub
    }
}
```

Output:



The screenshot shows a Java IDE with a file named 'EvenorOdd.java'. The code editor displays the source code for 'IfStatement'. The console window shows the output of the program: 'welcome to college', 'please enter number', '95', and 'welcome to tech club'. The console title bar indicates the application is 'IfStatement [Java Application]' and the path is 'C:\Program Files\Java\jdk-17\bin\javaw.exe'.

Program 2:

```
import java.util.Scanner;
public class IfElseStatement {
    public static void main(String[] args) {
        Scanner scan =new Scanner(System.in);
        System.out.println("please enter a number");
        int n=scan.nextInt();
```

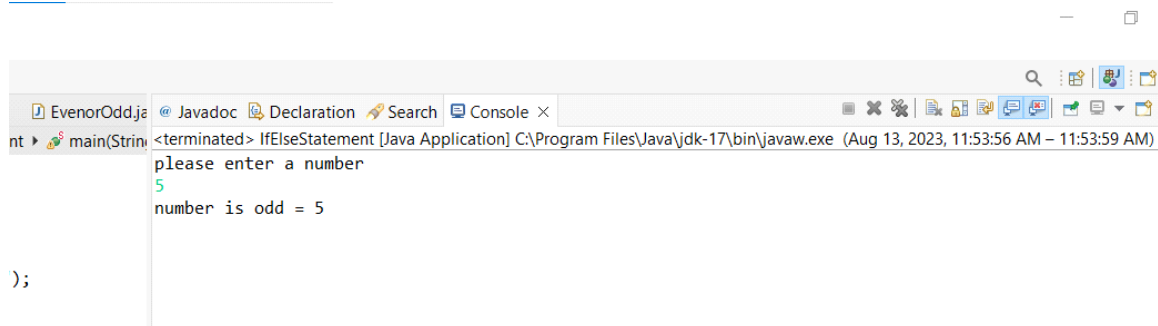
```

        if(n%2==0)
        {
            System.out.println("number is even"+n);
        }
        else
        {
            System.out.println("number is odd = " +n);
        }
    }

}

```

Output:



```

EvenorOdd.java | Javadoc | Declaration | Search | Console x
nt ▶ main(String[] args) {
    Scanner scanner = new Scanner(System.in);
    System.out.println("please enter a number");
    int n = scanner.nextInt();
    if (n % 2 == 0) {
        System.out.println("number is even" + n);
    } else {
        System.out.println("number is odd = " + n);
    }
}
}

<terminated> IfElseStatement [Java Application] C:\Program Files\Java\jdk-17\bin\javaw.exe (Aug 13, 2023, 11:53:56 AM – 11:53:59 AM)
please enter a number
5
number is odd = 5

```

Program 3:

```

import java.util.Scanner;

class App {

    public int inputage()
    {

        Scanner scan=new Scanner(System.in);

        System.out.println("enter age =");
    }
}

```

```
        int age=scan.nextInt();

        return age;

    }

    public boolean iseligible(int age)
    {

        boolean eligible=false;

        if (age>18)
        {

            eligible=true;

        }

        return eligible;

    }

}

class VoteApp1
{

    public static void main(String[] args)
    {

        App ob=new App();

        int age=ob.inputage();

        boolean res=ob.iseligible(age);

        if (res==true)
        {

            System.out.println("Eligible to vote");

        }

        else
```

```

{
System.out.println("Not Eligible to vote");
}

}

}

```

Output:

```

eligible(int) : boolean
{
    // ...
}

eligible(52);

```

```

<terminated> VoteApp1 [Java Application] C:\Program Files\Java\jdk-17\bin\javaw.exe (Aug 13, 2023, 11:57:31 AM – 11:57:37 AM) [pid: 1450]
enter age =
52
Eligible to vote

```

Program 4:

Else of Ladder:

```

import java.util.Scanner;

public class MarksGift {

    public static void main(String[] args) {

        Scanner scan=new Scanner(System.in);

        System.out.println("Please Enter marks= ");

        int marks=scan.nextInt();

        if(marks>90)
        {

            System.out.println(" u will get a Laptap");

        }

        else if(marks>80 && marks<=90)
        {

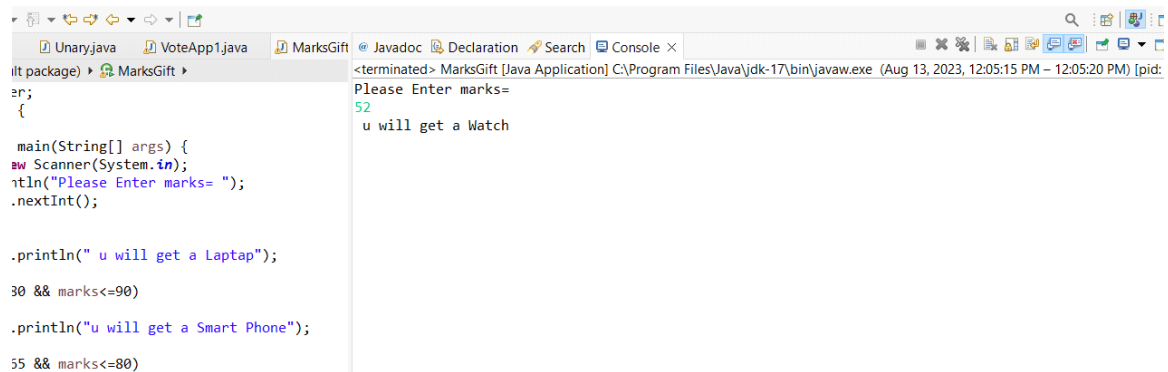
```

```

        System.out.println("u will get a Smart Phone");
    }
    else if(marks>65 && marks<=80)
    {
        System.out.println(" u will get a Bicycle");
    }
    else if(marks>40 && marks<=65)
    {
        System.out.println(" u will get a Watch");
    }
    else
    {
        System.out.println("u will be thrown out of the house");
    }
}
}

```

Output:



The screenshot shows an IDE with two panes. The left pane displays the source code for a Java application named 'MarksGift'. The code includes a 'main' method that uses a 'Scanner' to read input from the user. It prints 'Please Enter marks=' and then checks the input against three conditions: marks > 90 (prints 'u will get a Laptop'), marks > 65 and marks <= 80 (prints 'u will get a Smart Phone'), and marks > 40 and marks <= 65 (prints 'u will get a Watch'). The right pane shows the console output, which includes the message '<terminated> MarksGift [Java Application] C:\Program Files\Java\jdk-17\bin\javaw.exe (Aug 13, 2023, 12:05:15 PM - 12:05:20 PM) [pid: ...]' followed by the user's input '52' and the program's output 'u will get a Watch'.

```

Unary.java  VoteApp1.java  MarksGift  Javadoc  Declaration  Search  Console ×
lt package)  MarksGift
er;
{
    main(String[] args) {
        Scanner(System.in);
        itln("Please Enter marks= ");
        .nextInt();

        .println(" u will get a Laptop");
        30 && marks<=90)

        .println("u will get a Smart Phone");
        55 && marks<=80)
    }
}

```

```

<terminated> MarksGift [Java Application] C:\Program Files\Java\jdk-17\bin\javaw.exe (Aug 13, 2023, 12:05:15 PM - 12:05:20 PM) [pid: ...]
Please Enter marks=
52
u will get a Watch

```

Program 5:

Switch Case Statement:

```
import java.util.*;

public class Digits {

public static void main(String[] args) {

    Scanner scan=new Scanner(System.in);

    System.out.println("please enter a number");

    int number=scan.nextInt();

    switch(number)

    {

    case 0:

        System.out.println("Zero");

        break;

    case 1:

        System.out.println("One");

        break;

    case 2:

        System.out.println("Two");

        break;

    case 3:

        System.out.println("Three");

        break;

    case 4:

        System.out.println("Four");

        break;
```

case 5:

System.*out*.println("five");

break;

case 6:

System.*out*.println("six");

break;

case 7:

System.*out*.println("Seven");

break;

case 8:

System.*out*.println("Eight");

break;

case 9:

System.*out*.println("Nine");

break;

default:

System.*out*.println("Invalid input");

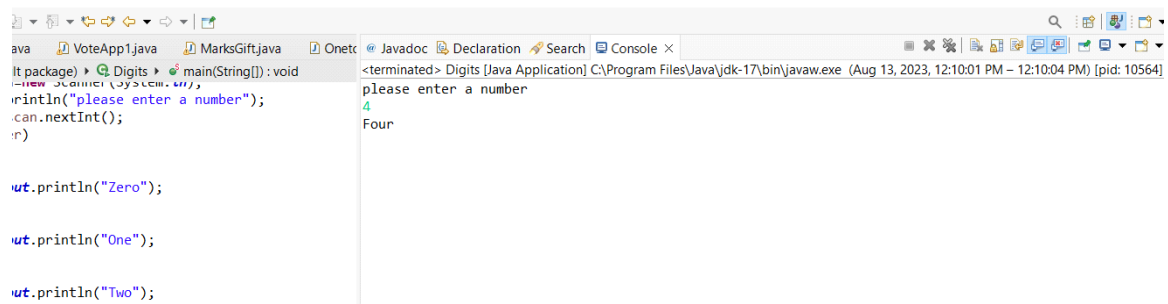
}

scan.close();

}

}

Output:



The screenshot shows an IDE with a Java file named 'Digits.java'. The code in the editor is as follows:

```
import java.util.Scanner;  
public class Digits {  
    public static void main(String[] args) {  
        Scanner sc = new Scanner(System.in);  
        System.out.println("please enter a number");  
        int n = sc.nextInt();  
        switch (n) {  
            case 0: System.out.println("Zero");  
            case 1: System.out.println("One");  
            case 2: System.out.println("Two");  
        }  
    }  
}
```

The console output on the right shows the execution results:

```
<terminated> Digits [Java Application] C:\Program Files\Java\jdk-17\bin\javaw.exe (Aug 13, 2023, 12:10:01 PM - 12:10:04 PM) [pid: 10564]  
please enter a number  
4  
Four
```

Program 6:

```
import java.util.Scanner;
```

```
class App {
```

```
    public char inputChar()
```

```
{
```

```
        Scanner scan=new Scanner(System.in);
```

```
        System.out.println("please enter charecter");
```

```
        char c=scan.next().charAt(0);
```

```
        return c;
```

```
}
```

```
    public void classifyChar(char c)
```

```
{
```

```
        if (c>='A' && c<='Z' || c>='a' && c<='z')
```

```
{
```

```
            System.out.println("u entered alphabet");
```

```
}
```

```
        else if(c>='0' && c<='9')
```

```
{
```



```

        System.out.println("u entered digits");
    }
    else
    {
        System.out.println("u entered special symbol");
    }
}
}

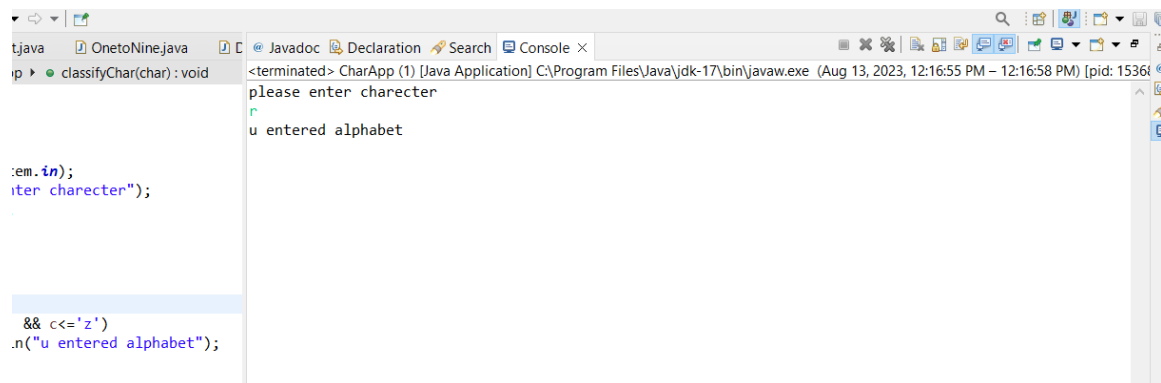
```

```

class CharApp
{
    public static void main(String[] args)
    {
        App A=new App();
        char ch=A.inputChar();
        A.classifyChar(ch);
    }
}

```

Output:



The screenshot shows an IDE window with the following tabs: OnetoNine.java, Javadoc, Declaration, Search, and Console. The Console tab is active, displaying the output of the Java application. The output shows the prompt "please enter charecter" (note the typo in the original image) and the user input "u entered alphabet". The code editor on the left shows the following code snippet:

```

        em.in);
        iter charecter");

        && c<='z')
        .n("u entered alphabet");

```

Program 7:

Nested If:

```
import java.util.Scanner;

public class Numbers {

    public static void main(String[] args) {

        Scanner scan=new Scanner(System.in);

        System.out.println("please enter a number");

        int number=scan.nextInt();

        if(number>0)
        {

            if(number%2==0)
            {

                System.out.println("number is even");

            }

            else

            {

                System.out.println("number is odd");

            }

        }

        else

        {

            System.out.println("number is negative");

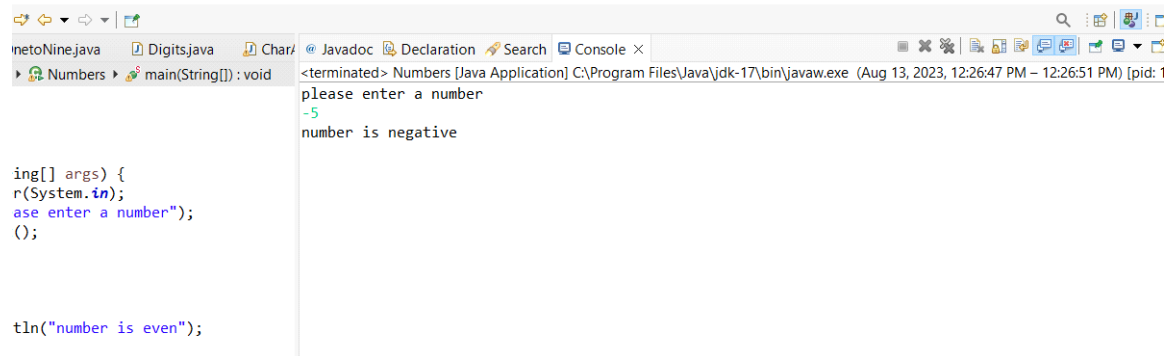
        }

    }

}
```

```
}
```

Output:



The screenshot shows an IDE with a Java file named 'Numbers.java'. The code in the editor is as follows:

```
ing[] args) {  
    r(System.in);  
    ase enter a number");  
    ();  
  
    tln("number is even");
```

The output window on the right shows the following text:

```
<terminated> Numbers [Java Application] C:\Program Files\Java\jdk-17\bin\javaw.exe (Aug 13, 2023, 12:26:47 PM – 12:26:51 PM) [pid: 1  
please enter a number  
-5  
number is negative
```

Program 8:

For Loop:

```
import java.util.Scanner;
```

```
public class ForDemo {
```

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

```
    Scanner scan=new Scanner(System.in);
```

```
    System.out.println("please enter a number");
```

```
    int n=scan.nextInt();
```

```
    for(int i=1;i<=n;i++)
```

```
    {
```

```
        System.out.println("Hello");
```

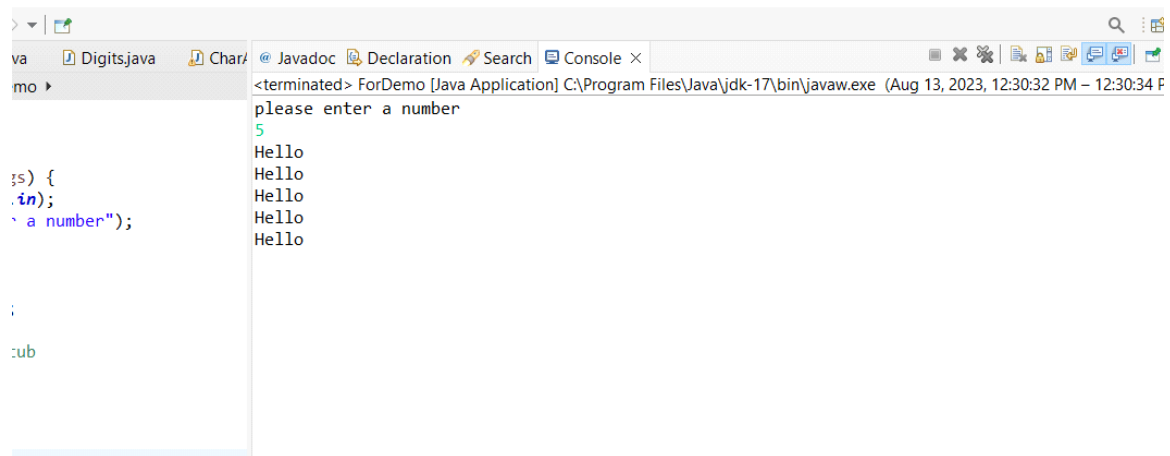
```
    }
```

```
    scan.close();
```

```
}
```

```
}
```

Output:



The screenshot shows an IDE with a file named 'Digits.java' open. The code in the editor is as follows:

```
public class Digits {  
    public static void main(String[] args) {  
        Scanner sc = new Scanner(System.in);  
        System.out.println("Please enter a number");  
        int n = sc.nextInt();  
        while (n > 0) {  
            System.out.println("Hello");  
            n = n - 1;  
        }  
    }  
}
```

The console output on the right shows the execution of the program:

```
<terminated> ForDemo [Java Application] C:\Program Files\Java\jdk-17\bin\javaw.exe (Aug 13, 2023, 12:30:32 PM - 12:30:34 F  
Please enter a number  
5  
Hello  
Hello  
Hello  
Hello  
Hello  
Hello
```

Program 9:

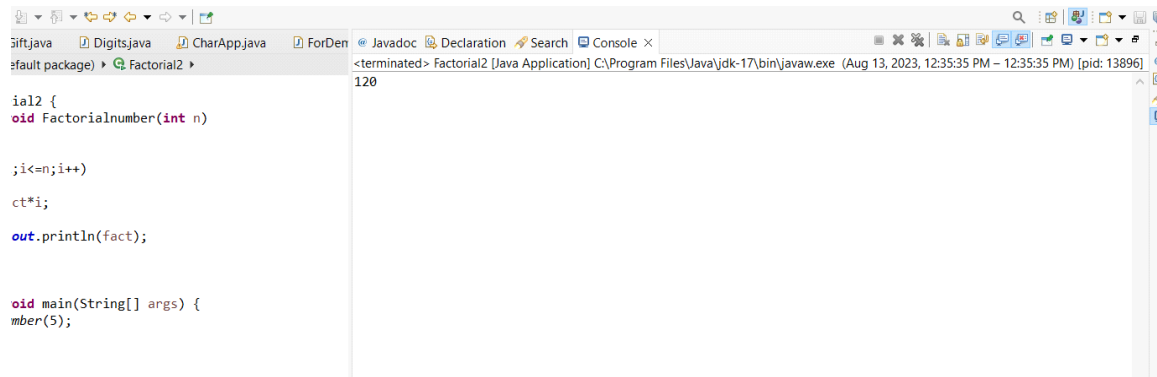
```
public class SumofNNaturalNumbers {  
  
    public static void main(String[] args) {  
        int sum=0;  
        int n=10;  
        for(int i=1;i<=n;i++)  
        {  
            sum=sum+i;  
        }  
        System.out.println("sum of n natural numbers:"+sum);  
    }  
}
```

Output:

Program 10:

```
public class Factorial2 {  
    public static void Factorialnumber(int n)  
    {  
        int fact=1;  
        for(int i=1;i<=n;i++)  
        {  
            fact=fact*i;  
        }  
        System.out.println(fact);  
    }  
  
    public static void main(String[] args) {  
        Factorialnumber(5);  
    }  
}
```

Output:



Program 11:

```
import java.util.Scanner;

public class TableProgram {

    public static void main(String[] args) {

        Scanner scan=new Scanner(System.in);

        System.out.println("please enter a number");

        int n=scan.nextInt();

        for(int i=1;i<=10;i++)

        {

            int sum=n*i;

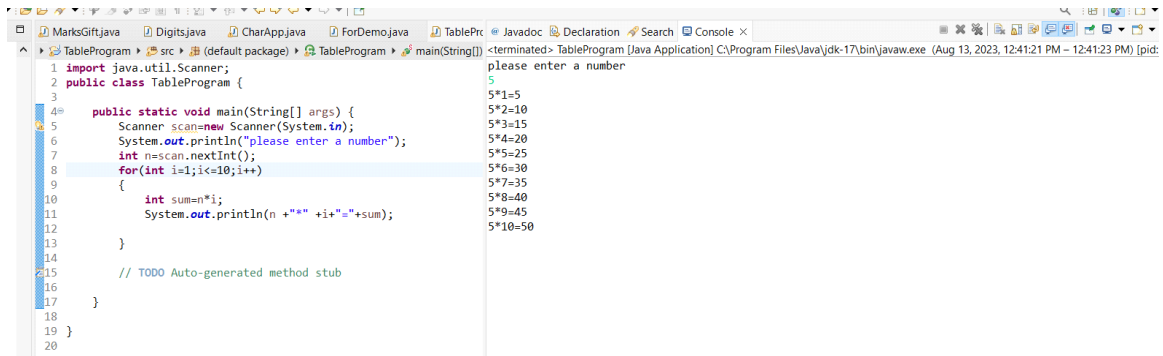
            System.out.println(n + "*" + i + "=" + sum);

        }

    }

}
```

Output:



```
1 import java.util.Scanner;
2 public class TableProgram {
3
4     public static void main(String[] args) {
5         Scanner scan=new Scanner(System.in);
6         System.out.println("please enter a number");
7         int n=scan.nextInt();
8         for(int i=1;i<=10;i++)
9         {
10             int sum=n*i;
11             System.out.println(n + "*" + i + "=" + sum);
12         }
13     }
14
15     // TODO Auto-generated method stub
16
17 }
18
19 }
20
```

please enter a number
5
5*1=5
5*2=10
5*3=15
5*4=20
5*5=25
5*6=30
5*7=35
5*8=40
5*9=45
5*10=50

Program 12:

```
import java.util.Scanner;

public class whileDemo {

    public static void main(String[] args) {

        Scanner scan=new Scanner(System.in);

        System.out.println("please enter a number");

        int n=scan.nextInt();

        int i=1;

        while(i<=n)

        {

            System.out.print("Hello,"+" ");

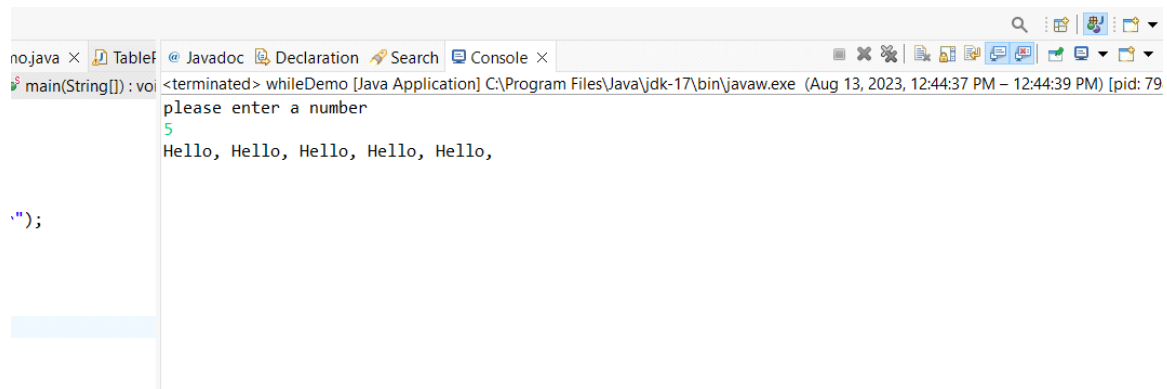
            i++;

        }

    }

}
```

Output:

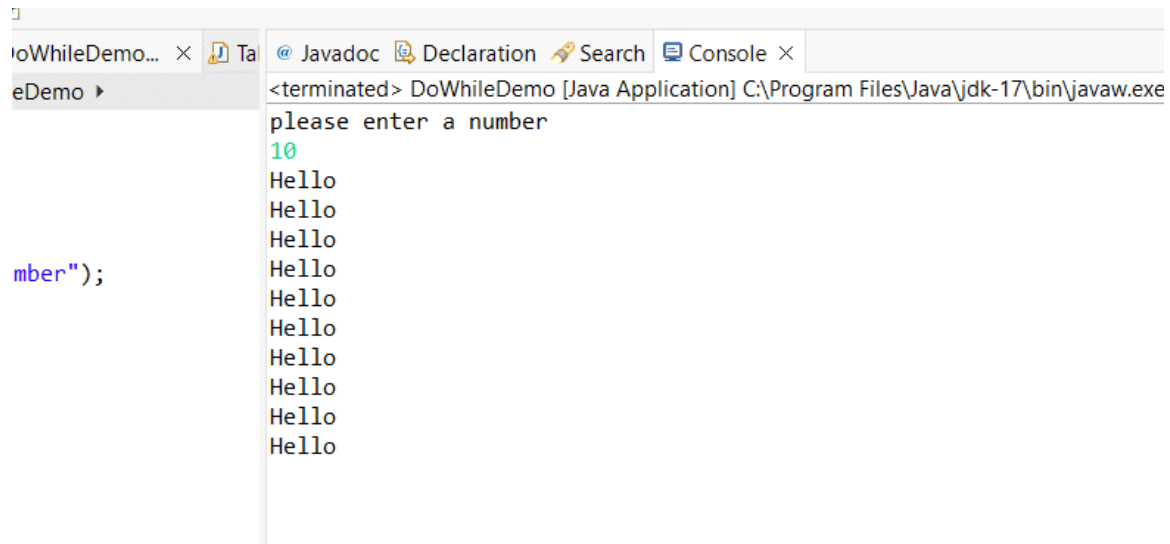


```
no.java × Tablet Javadoc Declaration Search Console ×  
<terminated> whileDemo [Java Application] C:\Program Files\Java\jdk-17\bin\javaw.exe (Aug 13, 2023, 12:44:37 PM – 12:44:39 PM) [pid: 79]  
main(String[]) : void  
please enter a number  
5  
Hello, Hello, Hello, Hello, Hello,  
  
");
```

Program 13:

```
import java.util.Scanner;  
  
public class DoWhileDemo {  
  
    public static void main(String[] args) {  
  
        Scanner scan=new Scanner(System.in);  
  
        System.out.println("please enter a number");  
  
        int n=scan.nextInt();  
  
        int i=1;  
  
        do  
        {  
  
            System.out.println("Hello");  
  
            i++;  
  
        } while(i<=n);  
  
    }  
  
}
```

Output:

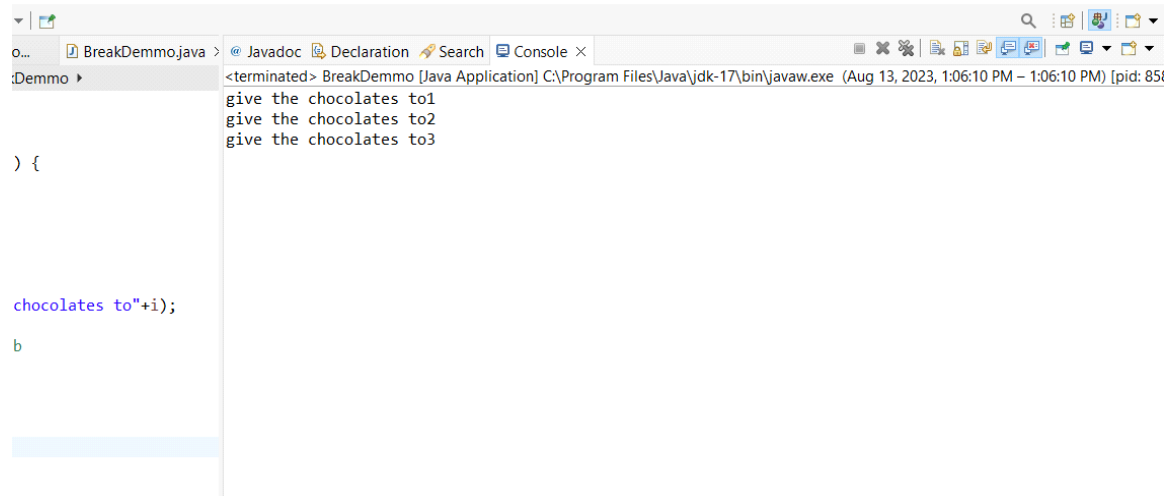


```
<terminated> DoWhileDemo [Java Application] C:\Program Files\Java\jdk-17\bin\javaw.exe
please enter a number
10
Hello
Hello
Hello
Hello
Hello
Hello
Hello
Hello
Hello
Hello
Hello
Hello
```

Program 14:

```
public class BreakDemmo {
    public static void main(String[] args) {
        for(int i=1;i<=7;i++)
        {
            if(i==4)
            {
                break;
            }
            System.out.println("give the chocolates to"+i);
        }
    }
}
```

Output:



Program 15:

```
public class Con5tinueDemo {  
    public static void main(String[] args) {  
        for(int i=1;i<=7;i++)  
        {  
            if(i==4)  
            {  
                continue;  
            }  
            System.out.println("give the chocolates to"+i);  
        }  
    }  
}
```

Output:

```
ConStinueDem... | BreakDemmo.java | ConStinueDem... | @ Javadoc | Declaration | Search | Console x
(default package) | ConStinueDemo | main(String[]) | <terminated> ConStinueDemo [Java Application] C:\Program Files\Java\jdk-17\bin\javaw.exe (Aug 13, 2023, 1:08:23)

nueDemo {
    void main(String[] args) {
        ;i<=7;i++)
    }
}

tinue;

out.println("give the chocolates to"+i);
```