Java Conditional Statement Exercises

**1.** Write a Java program to get a number from the user and print whether it is positive or negative.

*Test Data*  
Input number: 35  
*Expected Output* :  
Number is positive

**2.** Write a Java program to solve quadratic equations (use if, else if and else).

*Test Data*  
Input a: 1   
Input b: 5   
Input c: 1  
*Expected Output* :  
The roots are -0.20871215252208009 and -4.7912878474779195 

**3.**Take three numbers from the user and print the greatest number.

*Test Data*  
Input the 1st number: 25   
Input the 2nd number: 78   
Input the 3rd number: 87  
*Expected Output* :  
The greatest: 87

**4.** Write a Java program to read the value of an integer m and display the value of n is 1 when m is larger than 0, 0 when m is 0 and -1 when m is less than 0.

*Test Data*  
Input a number: 25   
*Expected Output* :  
The value of m = 25.0  
The value of n = 1

**5.** Write a Java program that keeps a number from the user and generates an integer between 1 and 7 and displays the name of the weekday.

*Test Data*  
Input number: 3   
*Expected Output* :  
Wednesday

**6.** Write a Java program that reads in two floating-point numbers and tests whether they are the same up to three decimal places.

*Test Data*  
Input floating-point number: 1256  
Input floating-point another number: 3254  
*Expected Output* :  
They are different

**7.** Write a Java program to find the number of days in a month.

*Test Data*  
Input a month number: 2  
Input a year: 2016  
*Expected Output* :  
February 2016 has 29 days

**8.** Write a Java program that takes the user to provide a single character from the alphabet. Print Vowel or Consonant, depending on the user input. If the user input is not a letter (between a and z or A and Z), or is a string of length > 1, print an error message.

*Test Data*  
Input an alphabet: p  
*Expected Output* :  
Input letter is Consonant

**9.** Write a Java program that takes a year from user and print whether that year is a leap year or not.

*Test Data*  
Input the year: 2016  
*Expected Output* :  
2016 is a leap year

**10.** Write a program in Java to display the first 10 natural numbers.

*Expected Output* :

The first 10 natural numbers are:

1

2

3

4

5

6

7

8

9

10

**11.** Write a program in Java to display n terms of natural numbers and their sum.

*Test Data*  
Input the number: 2  
*Expected Output* :

Input number:

2

The first n natural numbers are :

2

1

2

The Sum of Natural Number upto n terms :

23

[.](https://www.w3resource.com/java-exercises/conditional-statement/java-conditional-statement-exercise-11.php)

**12.** Write a program in Java to input 5 numbers from keyboard and find their sum and average.

*Test Data*  
Input the 5 numbers : 1 2 3 4 5   
*Expected Output* :

Input the 5 numbers :

1

2

3

4

5

The sum of 5 no is : 15

The Average is : 3.0

**13.** Write a program in Java to display the cube of the number upto given an integer.

*Test Data*  
Input number of terms : 4  
*Expected Output* :

Number is : 1 and cube of 1 is : 1

Number is : 2 and cube of 2 is : 8

Number is : 3 and cube of 3 is : 27

Number is : 4 and cube of 4 is : 64

**14.** Write a program in Java to display the multiplication table of a given integer.

*Test Data*  
Input the number (Table to be calculated) : Input number of terms : 5  
*Expected Output* :

5 X 0 = 0

5 X 1 = 5

5 X 2 = 10

5 X 3 = 15

5 X 4 = 20

5 X 5 = 25

**15.** Write a program in Java to display the n terms of odd natural number and their sum.

*Test Data*  
Input number of terms is: 5   
*Expected Output* :

The odd numbers are :

1

3

5

7

9

The Sum of odd Natural Number upto 5 terms is: 25

**16.** Write a program in Java to display the pattern like right angle triangle with a number.

*Test Data*  
Input number of rows : 10   
*Expected Output* :

1

12

123

1234

12345

123456

1234567

12345678

123456789

12345678910

**17.** Write a program in Java to make such a pattern like right angle triangle with a number which will repeat a number in a row.The pattern is as follows :

1

22

333

4444

**18.** Write a program in Java to make such a pattern like right angle triangle with number increased by 1.The pattern like :

1

2 3

4 5 6

7 8 9 10

**19.** Write a program in Java to make such a pattern like a pyramid with a number which will repeat the number in the same row.

1

2 2

3 3 3

4 4 4 4

**20.** Write a program in Java to print the Floyd's Triangle.

*Test Data*  
Input number of rows : 5   
*Expected Output* :

1

01

101

0101

10101

**21.** Write a program in Java to display the pattern like a diamond.

*Test Data*  
Input number of rows (half of the diamond) : 7   
*Expected Output* :

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**22.**Write a Java program to display Pascal's triangle.

*Test Data*  
Input number of rows: 5   
*Expected Output* :

Input number of rows: 5

1

1 1

1 2 1

1 3 3 1

1 4 6 4 1

**23.**Write a java program to generate a following \*'s triangle.

*Test Data*  
Input the number: 6   
*Expected Output* :

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**24.**Write a java program to generate a following @'s triangle.

*Test Data*  
Input the number: 6   
*Expected Output* :

@

@@

@@@

@@@@

@@@@@

@@@@@@

**25.**Write a Java program to display the number rhombus structure.

*Test Data*  
Input the number: 7   
*Expected Output* :

1

212

32123

4321234

543212345

65432123456

7654321234567

65432123456

543212345

4321234

32123

212

1

**26.**Write a Java program to display the following character rhombus structure.

*Test Data*  
Input the number: 7   
*Expected Output* :

A

ABA

ABCBA

ABCDCBA

ABCDEDCBA

ABCDEFEDCBA

ABCDEFGFEDCBA

ABCDEFEDCBA

ABCDEDCBA

ABCDCBA

ABCBA

ABA

A

**27.**Write a Java program that reads an integer and check whether it is negative, zero, or positive.

*Test Data*  
Input a number: 7   
*Expected Output* :

Number is positive

**28.**Write a Java program that reads a floating-point number. If the number is zero it prints "zero", otherwise, print "positive" or "negative". Add "small" if the absolute value of the number is less than 1, or "large" if it exceeds 1,000,000.

*Test Data*  
Input a number: -2534   
*Expected Output* :

Negative

**29.**Write a Java program that reads an positive integer and count the number of digits the number (less than ten billion) has.

*Test Data*  
Input an integer number less than ten billion: 125463  
*Expected Output* :

Number of digits in the number: 6

**30.**Write a Java program that accepts three numbers and prints "All numbers are equal" if all three numbers are equal, "All numbers are different" if all three numbers are different and "Neither all are equal or different" otherwise.

*Test Data*  
Input first number: 2564  
Input second number: 3526   
Input third number: 2456  
*Expected Output* :

All numbers are different

**31.**Write a program that accepts three numbers from the user and prints "increasing" if the numbers are in increasing order, "decreasing" if the numbers are in decreasing order, and "Neither increasing or decreasing order" otherwise.

*Test Data*  
Input first number: 1524   
Input second number: 2345  
Input third number: 3321  
*Expected Output* :

Increasing order

**32.**Write a Java program that accepts two floating­point numbers and checks whether they are the same up to two decimal places.

*Test Data*  
Input first floating­point number: 1235  
Input second floating­point number: 2534   
*Expected Output* :

These numbers are different.

### Programming Questions and Exercises : Loops

**Question 1**

Write a program to print numbers from 1 to 10.

**Question 2**

Write a program to calculate the sum of first 10 natural number.

**Question 3**

Write a program that prompts the user to input a positive integer. It should then print the multiplication table of that number.

**Question 4**

Write a program to find the factorial value of any number entered through the keyboard.

**Question 5**

Two numbers are entered through the keyboard. Write a program to find the value of one number raised to the power of another. (Do not use Java built-in method)

**Question 6**

Write a program that prompts the user to input an integer and then outputs the number with the digits reversed. For example, if the input is 12345, the output should be 54321.

**Question 7**

Write a program that reads a set of integers, and then prints the sum of the even and odd integers.

**Question 8**

Write a program that prompts the user to input a positive integer. It should then output a message indicating whether the number is a prime number.

**Question 9**

Write a program to calculate HCF of Two given number.

**Question 10**

Write a do-while loop that asks the user to enter two numbers. The numbers should be added and the sum displayed. The loop should ask the user whether he or she wishes to perform the operation again. If so, the loop should repeat; otherwise it should terminate.

**Question 11**

Write a program to enter the numbers till the user wants and at the end it should display the count of positive, negative and zeros entered.

**Question 12**

Write a program to enter the numbers till the user wants and at the end the program should display the largest and smallest numbers entered.

**Question 13**

Write a program to print out all Armstrong numbers between 1 and 500. If sum of cubes of each digit of the number is equal to the number itself, then the number is called an Armstrong number.  
For example, 153 = ( 1 \* 1 \* 1 ) + ( 5 \* 5 \* 5 ) + ( 3 \* 3 \* 3 )

**Question 14**

Write a program to print Fibonacci series of n terms where n is input by user :   
0 1 1 2 3 5 8 13 24 .....

**Question 15**

Write a program to calculate the sum of following series where n is input by user.   
1 + 1/2 + 1/3 + 1/4 + 1/5 +…………1/n

**Question 16**

Compute the natural logarithm of 2, by adding up to n terms in the series  
1 - 1/2 + 1/3 - 1/4 + 1/5 -... 1/n  
where n is a positive integer and input by user.

**Question 17**

Write a program that generates a random number and asks the user to guess what the number is. If the user's guess is higher than the random number, the program should display "Too high, try again." If the user's guess is lower than the random number, the program should display "Too low, try again." The program should use a loop that repeats until the user correctly guesses the random number.

**Question 18**

Write a program to print following :

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | | | | | |
| **i)** | \*\*\*\*\*\*\*\*\*\* \*\*\*\*\*\*\*\*\*\* \*\*\*\*\*\*\*\*\*\* \*\*\*\*\*\*\*\*\*\* | **ii)** | \* \*\* \*\*\* \*\*\*\* \*\*\*\*\* | **iii)** | \*       \*\*     \*\*\*   \*\*\*\* \*\*\*\*\* |
| **iv)** | \*       \*\*\*     \*\*\*\*\*   \*\*\*\*\*\*\* \*\*\*\*\*\*\*\*\* | **v)** | **1       222     33333   4444444 555555555** | **vi)** | **1       212     32123   4321234 543212345** |

**Question 19**

Write a program to compute sinx for given x. The user should supply x and a positive integer n. We compute the sine of x using the series and the computation should use all terms in the series up through the term involving xn

sin x = x - x3/3! + x5/5! - x7/7! + x9/9! .......

**Question 20**

Write a program to compute the cosine of x. The user should supply x and a positive integer n. We compute the cosine of x using the series and the computation should use all terms in the series up through the term involving xn

cos x = 1 - x2/2! + x4/4! - x6/6! .....