Java 9 & 10

Assignment: Combine Assignment

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Instructions:

- **Complete this assignment in next 48 hours.**
- **Submit the solution to your leaders.**
- **Ask for help to your leaders if it is really a need.**

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(Take the value hardcoded not from user)

Program 1: Write a code in Java, to determine whether the given random year is leap.

Program 2: Write a code in Java, to find Greatest Common Divisor (GCD) of two given numbers.

Program 3: Write a Program that prints occurrences of a digit from a number, Take input hardcoded Number: 345669760562. Digit to check Frequency: 6

Output: The occurrence of 6 in number 34566970562 is 4.

Program 4: Write a program to find second largest number from the given 3 numbers. Take following set of inputs:-

A] int a = 10, b = 20, c = 30; <- second largest number is 20

B] int a = 23334, b = 1010, c = 10000 by<- second largest number is 10000

C] int a = 1999, b = 2000, c = 1998 <- second largest number is 1999

Optional: If you know the concept of array in java then solve following test cases using array.

A] 455 800 56 39 290 18 383 3 290 29 10

B] 10 9 4 5 6 7 8 3

C] 10 8 56 23 45 97

(I would suggest you attempt this option. If you do not know about the array, you can check on the internet)

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Program 5: Write a program to print the ASCII value of individual character from a string (take hardcoded value)

e.g : abcd

output : a= 97,b = 98,c=99,d=100

Program 6: write a program to check whether the number is perfect number or not

Hint: (positive integer that is equal to the sum of its proper divisors)

e.g i/p : take hardcoded value

o/p : 6 is a prefect number

Program 7: Write a Program that takes Three integers and prints the minimum number from them.

I/p: 50 7 56 (Take hard coded value)

O/p: minimum number from 50 7 and 56 is 7.

Program 8: Write a Program that takes a number as input from and prints only those digits from that number, which are prime.

I/p:141 (Take a hard coded value)

O/p: the prime digit from the number 141 is 1,

Program 9: Write a java program to check if the taken number is palindrome or not.

Input: 121 (Take Hardcoded)

Output: 121 is a palindrome number

Program 10: Write a java program to calculate the power of a given number.

Input: number 10, power: 2

Output: 10 to the power 2 is 100

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Program 11: Write a Program that accepts an integer from user and prints all of its perfect divisors.

Input: 24

Output: Perfect Divisors of 24 are: 2 3 4 6 8 12

Program 12: Ternary Operator working with other operators. Take 3 variables as follows and perform the following 4 operations, print the value of ans, i, j, k after each operation, also solve each operation on notebook and send it to your group leader via email.

int i = 5; int j = 10; int k = 15; boolean ans;

a] ans = (i < (j - 10))? true: false;

b] ans = (i == (i = j))? true: false;

c] ans = ((i & j & k) != 0)? true: false;

d] ans = ((i ^ j >> 2) == 0)? true: false;

Program 13: Find whether a number is a Neon number or not. Neon Number -> A neon number is a number where the sum of digits of square of the number is equal to the number
e.g. 9 is a Neon number but how?

Square of 9 is 81, and sum of digits of 81 i.e. 8 + 1 is 9 again

Input: 9

Output: 9 is a neon number

(also give a thought on how many possible neon numbers are there

Program 15: Write a java code to count the number of steps required for a number to reduce it to zero.(Take a hardcoded value and write the number of steps required to make it zero).

Input - num = 8

Output - steps required = 4

Input - num = 123

Output - steps required = 12.

Program 16: Write a java code to find a self-dividing number in which all of the digits are divisible by the number. (Take a while loop from 0 - 100 and print all the self-dividing numbers).

Example: Number = 12. Here 1 and 2 divide 12

Program 17: Write a program to check whether the number is prime number or not (Take hardcoded Value)

Input: 13

Output: It is a prime number

Program 18: Write a program to accept some number and print them in reverse order

Input: 420

Output: 024

Program 19: Write a Program in Java, Print the following pattern using for loop.

A B C D

E F G H

I J K L

M N O P

Program 20: Write a Program in Java, Print the following pattern using for loop.

A B C D

a b c d

E F G H

e f g h

Program 21: Write a program using **ternary operator** to check the behaviour of char in java using **System.out.println()**. Follow the outline.

1. boolean bVar: true
2. boolean bVar1: false
3. char cVar: 'S'
4. int iVar: 0

Write 2 SOPs using the ternary operator to check if both the Boolean values are true.

If yes: iVar

Else: cVar

Program 22: Write a program to check whether given **hardcoded** char is a vowel or a consonant.

Follow the outline.

1. Take a String to **only store** if vowel, then sVar: "Vowel"
2. Otherwise sVar: "Consonant"
3. Use the **switch statement to print** whether it is a vowel or consonant using **input to switch as sVar**.

Program 23: Write a Java program to take two numbers (hardcoded) and print its LCM (Least Common Multiple).

Output: enter two numbers (Hardcoded): 10 15

LCM is 30.

Program 24: Write a Java program, take a number (Hardcoded) and print the count of its digits.

Input: enter any number: 234

Output: number of digits: 3