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ASSIGNMENT - 1

JAVA

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1. Sum of natural numbers upto n.

literals? //

class GFG {

public static void main (String [] args)

{

int N = 10;

int sum = 0;

System.out.println ("Sum of ", N);

for (int i = 1; i <= N; i++) {

sum += i;

}

System.out.println (sum)

}

}

input :- 10

Output :- 55

2. Prime Number

class GFG {

static boolean isPrime (int n)

{ if (n <= 1)

return false;

for (int i = 2; i < n; i++)

input :- 11

if (n % i == 0)

Output :- Prime number

return false;

return true;

}

public static void main (String args [])

{ System.out.println (isPrime (11)) } }

3) Factorial

Class Test {

 static int factorial (int n)

 {
 int res = 1, i;

 for (i = 2; i <= n; i++)

 input :- 4

 res *= i;

 return res;

}

 public static void main (String [] args)

{

 int num = 5;

 System.out.println (factorial (5));

}

}

output :- 24

4) Reverse a Number

Class GFG {

 static int reverse (int n)

 input :- 12345

{

 int rev = 0;

 output :- 54321

 int rem;

 while (n > 0) {

 rem = n % 10;

 rev = (rev * 10) + rem;

 n = n / 10; }

 return rev; }

 public static void main (String [] args)

 int n = 4525;

 System.out.print (reverse (n)); }

No need to make
method

5.

Armstrong Number

public class Armstrong {

 public static void main (String [] args) {

 if (args.length != 1) {

 System.out.println ("Provide one number");
 return; }

 int number = Integer.parseInt(args[0]);

 int on = number;

 int n = 0;

 int t = number;

 while (t != 0) {

 t /= 10;

 n++;

}

 while (on != 0) {

 int rem = on % 10;

 n += Math.pow(rem, n);

 on /= 10; }

 if (n == number) {

 System.out.println ("It is an Armstrong number"); }

 else {

 System.out.println ("It is not an Armstrong number"); }

}

3

6. Happy number

```
public class HappyNumber {
    public static void main (String [] args) {
        if (args.length != 1) {
            System.out.println ("Provide one number");
            return;
        }
        int number = Integer.parseInt (args[0]);
        System.out.println (number + (isHappy (number)) ? "Happy" : "Not Happy");
    }

    public static boolean isHappy (int n) {
        int s = n, f = n;
        while (f != 1 && !getNext (f) == 1) {
            f = getNext (getNext (f));
            if (s == f) return false;
        }
        return true;
    }

    private static int getNext (int n) {
        int s = 0;
        while (n > 0) {
            int d = n % 10;
            s += d * d;
            n /= 10;
        }
        return s;
    }
}
```

Input :- 7
Output :- Happy number

7. Palindrome

Method II before 9 . .

Public class Palindrome {

public static void main (String [] args) {

int number = Integer.parseInt (args[0]);

System.out.println (isPalindrome (number));

}

; public static boolean isPalindrome (int n) {

int r = 0, s = n;

while (n != 0) {

n = n * 10 + n % 10;

input :- 525

n / = 10; }

output :- Palindrome

return s == r; }

}

8. Sum of digits

public class sumofdigits {

Sum = Sum + s;

public static void main (String [] args) {

int n = Integer.parseInt (args[0]);

(N) X

int s = 0;

while (number != 0) {

From

s = n % 10;

input :- 12345

n / = 10; }

output :- 15

System.out.println (*s);

}

}

9. Perfect Number

Public class perfectnumbers {

public static void main (String [] args) {

int n = Integer.parseInt(args[0]);

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

int s = 0

for (int j = 1; j <= i / 2; j++) {

if (i % j == 0) {

s += j;

if (s == i) {

System.out.println(i);

input :- 6

output :- Perfect number

10) Numbers divisible by 5 and 7 till n

Public class Divisibleby5and7 {

public static void main (String [] args) {

if (args.length

int n = Integer.parseInt(args[0]);

System.out.println("divisible by 5 & 7 ");

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

if (i % 5 == 0 && i % 7 == 0) {

System.out.println(i);

input :- 50

output :- 35

11. Fibonacci Series:

```

public class Fibonacci {
    public static void main(String[] args) {
        int n = 100;
        int a = 0, b = 1, c;
        System.out.print(a + " " + b + " ");
        while ((c = a + b) <= n) {
            System.out.print(c + " ");
            a = b;
            b = c;
        }
    }
}

```

input :- 6
output :- 0,1,1,2,3,5

12. GCD and LCM

```

public class GCD and LCM {
    public static void main(String[] args) {
        int m1 = 24, m2 = 36;
        int gcd = GCD(m1, m2);
        int lcm = LCM(m1, m2, gcd);
        System.out.println("GCD = " + gcd);
        System.out.println("LCM = " + lcm);
    }

    public static int GCD(int a, int b) {
        while (b != 0) {
            int t = b;
            b = a % b;
            a = temp;
        }
        return a;
    }

    public static int LCM(int a, int b, int gcd) {
        return (a * b) / gcd;
    }
}

```

input :- 36, 120
output :- GCD = 12
LCM = 360

13. Celsius to fahrenheit & fahrenheit to celsius

public class Temperature {

 public static void main (String [] args) {

 double c = 25.0;

 double f = 77.0

 System.out.println (ctof(c) + ftoC(f));

}

 public static double ctof (c) {

 return (c * 9 / 5) + 32; }

 public static double ftoC (c) {

 return (f - 32) * 5 / 9; }

 input = c = 22

 ctof = 71.6

 f = 77

 fto c = 25

14. Decimal to Binary & Binary to Decimal

public class DecimalBinary {

 public static void main (String [] args) {

 int d = 25;

 String b = "11001";

 System.out.println (dtoB(d) + btoD(b)); }

 public static String dtoB (int d) {

 return Integer.toBinaryString (d);

}

 public static int btoD (int b) {

 return Integer.parseInt (b, 2); }

 input d = 25

 d to b = 11001

 b = 11001

 b to d = 25

}

15. Sum of Odd & Even for n numbers

public class oddeven {

 public static void main (String [] args) {

 int n = 10;

 int o = 0, e = 0;

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

 if (i % 2 == 0) {

 e += i; }

 else {

 o += i; }

 }

}

 System.out.println ("sum of odd" + o + "sum of even" + e); }

16. Leap year

public class Leapyear {

 public static void main (String [] args) {

 int y = 2024;

 if (isleap (y)) {

 System.out.println ("It is a leap year"); }

 else {

 System.out.println ("It is not a leap year"); }

 public static boolean isleap (int y) {

 return (y % 4 == 0 && y % 100 != 0) || (y % 400 == 0);

}

3

input :- 2024

output :- ("It is a leap year")

17. Voting

public class voting {

 public static void main (String [] args) {

 int age = 20;

 if (age >= 18) {

 System.out.println ("you are eligible to vote");

 } else {

 System.out.println ("you are not eligible to vote");

}

18. Sum of Square root and Cubic root

public class root {

 public static main (String [] args) {

 int n = 625;

 double square = 0, cubic = 0;

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

 square += Math.sqrt(i);

 cubic += Math.cubic(i);

}

 System.out.println ("Square " + square + "cubic " + cubic);

}

}

Input = 625

Output = Square 25

= Cubic 5

19. Vowels in the String

public class printvowels {

```
    public static void main(String[] args) {
        System.out.println("List of vowels");
        vowels();
    }
```

```
    public static void vowels() {
```

```
        String vowels = "aeiouAEIOU";
```

```
        for (int i = 0; i < vowels.length(); i++) {
            char ch = vowels.charAt(i);
            System.out.print(ch + " ");
        }
```

Input:- Hello

Output:- e o

}

20) Uppercase & Lower Case

public class Main {

```
    public static void main(String[] args) {
        String text = "Hello world";
```

```
        System.out.println(text.toUpperCase());
```

```
        System.out.println(text.toLowerCase());
```

}

Input:- Hello world

Output:- HELLO WORLD

hello world

}