work 1

import java.util.Scanner;

public class Ass8task1{

public static void main(String[] args){

Scanner S = new Scanner(System.in);

System.out.println("Enter a number :");

int N = S.nextInt();

evenChecker(N);

boolean result = isEven(N);

System.out.println(result);

boolean result1 = isPos(N);

System.out.println(result1);

sequence(N);

}

public static void evenChecker(int a){

if(a%2 == 0){

System.out.println("Even ! !");

}

else{

System.out.println("Odd ! !");

}

}

public static boolean isEven(int b){

boolean res = false;

if(b%2 == 0){

res = true;

}

else{

res = res;

}

return res;

}

public static boolean isPos(int c){

boolean res = false;

if(c >= 0){

res = true;

}

else{

res = res;

}

return res;

}

public static void sequence(int d){

if(isEven(d) == true && isPos(d) == true){

for(int i = 0; i <= d ; i += 2){

System.out.print(i+" ");

}

}

else{

for(int i = d; i < 0 ; i += 2 ){

System.out.print(i +" ");

}

}

}

}

Work 2

import java.util.Scanner;

public class Ass8task2{

public static void main(String[] args){

Scanner S = new Scanner(System.in);

System.out.println("Enter shape :");

String s = S.nextLine();

System.out.println("Enter radius :");

int N = S.nextInt();

double n = N\*1.0;

double area = circleArea(N);

System.out.println(area);

double volume = sphereVolume(n);

System.out.println(volume);

findSpace(N, s);

}

public static double circleArea(int a){

double d = (3.14159 \* a \* a);

return d;

}

public static double sphereVolume(double a){

double d = (3.0/4.0)\*(3.14159 \* a \* a \* a);

return d;

}

public static void findSpace(int a, String c){

if(c.equals("circle")){

double v = circleArea(a);

System.out.println(v);

}

else if(c.equals("sphere")){

double v = sphereVolume(a);

System.out.println(v);

}

else{

System.out.println("Wrong Parameter");

}

}

}

Work 3

import java.util.Scanner;

public class Ass8task3{

public static void main(String[] args){

Scanner S = new Scanner(System.in);

System.out.println("Enter 3 sides of a triangle :");

int a = S.nextInt();

int b = S.nextInt();

int c = S.nextInt();

boolean res = isTriangle(a, b, c);

System.out.println(res);

triArea(a, b, c);

}

public static boolean isTriangle(int x, int y, int z){

boolean flag = false;

if(x+y > z && y+z > x && z+x > y){

flag = !flag;

}

else{

flag = flag;

}

return flag;

}

public static void triArea(int x, int y, int z){

if(isTriangle(x, y, z) == true){

double p = (x+y+z)/2;

double area = Math.sqrt(p\*(p-x)\*(p-y)\*(p-z));

System.out.println(area);

}

else{

System.out.println("Can't form a triangle");

}

}

}

Work 4

import java.util.Scanner;

public class Ass8task4{

public static void main(String[]args){

Scanner S = new Scanner(System.in);

System.out.println("Enter a number :");

int N = S.nextInt();

boolean check = isPrime(N);

System.out.println(check);

boolean check1 = isPerfect(N);

System.out.println(check1);

int result = special\_sum(N);

System.out.println(result);

}

public static boolean isPrime(int a){

int count = 0;

boolean flag = false;

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

if(a%i == 0){

count++;

}

else{

continue;

}

}

if(count > 1){

flag = flag;

}

else{

flag = !flag;

}

return flag;

}

public static boolean isPerfect(int b){

int sum = 0;

boolean flag = false;

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

if(b%i == 0){

sum += i;

}

}

if(sum == b){

flag = !flag;

}

else{

flag = flag;

}

return flag;

}

public static int special\_sum(int c){

int sum = 0;

for(int i = 2; i <c ; i++){

if(isPerfect(i) == true){

sum += i;

}

else if(isPrime(i) == true){

sum += i;

}

else{

continue;

}

}

return sum;

}

}

Work 5

import java.util.Scanner;

public class Ass8task5{

public static void main(String[]args){

Scanner S = new Scanner(System.in);

System.out.println("Enter a number :");

int N = S.nextInt();

showDots(N);

System.out.println();

show\_palindrome(N);

System.out.println();

showDiamond(N);

}

public static void showDots(int a){

for(int i = 0; i < a ; i++){

System.out.print(".");

}

}

public static void show\_palindrome(int b){

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

System.out.print(i);

}

for(int i = b-1; i > 0; i--){

System.out.print(i);

}

}

public static void showDiamond(int c){

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

showDots(c-i);

show\_palindrome(i);

showDots(c-i);

System.out.println();

}

for(int i = c-1; i > 0; i--){

showDots(c-i);

show\_palindrome(i);

showDots(c-i);

System.out.println();

}

}

}

Work 6

import java.util.Scanner;

public class Ass8task6{

public static void main(String[]args){

Scanner S = new Scanner(System.in);

System.out.println("Enter your age :");

int N = S.nextInt();

System.out.println("Enter your salary simultaneously:");

int []sal = new int[12];

for(int i = 0; i < 12; i++){

sal[i] = S.nextInt();

}

double t = calcTax(N, sal);

System.out.print(t);

calcYearlyTax();

}

public static double calcTax(int a, int[]b){

double d = 0.0;

if(a < 18){

return d;

}

else if(a > 17 && b[0] < 10000){

return d;

}

else if(a > 17 && b[0] > 9999 && b[0] < 20000){

d = (7.0\*b[0])/100.0;

return d;

}

else if(a > 17 && b[0] > 19999){

d = (14.0\*b[0])/100.0;

return d;

}

}

public static void calcYearlyTax(){

int a = N;

int []b = sal[];

double sum = 0.0;

for(int i = 0; i < 12; i++){

double v = calcTax(a, b[i]);

sum += v;

System.out.print("Month"+(i+1)+" tax: "+v);

}

System.out.print("Total Yearly Tax: "+sum);

}

}