**1.15.1. Write a program named Banana.java that displays as below:**

A banana is an edible fruit.

If you wait the correct amount of time for it to ripen,

it will be sweet and delicious.

Public class Banana {

Public static void main(String[] args){

System.out.println (“A banana is an edible fruit.”);

System.out.println (“If you wait the correct amount of time for it to ripen”);

System.out.println (“it will be sweet and delicious. “);

**1.15.2. Write a program named Fibonacci.java that displays the result of**

**1 + 1 + 2 + 3 + 5 + 8 + 13 + 21.**

**class FibonacciExample1{**

**public static void main(String args[])**

**{**

**int n1=0,n2=1,n3,i,count=9;**

**System.out.print(n1+" "+n2);//printing 0 and 1**

**for(i=2;i<count;++i)//loop starts from 2 because 0 and 1 are already printed**

**{**

**n3=n1+n2;**

**System.out.print(" "+n3);**

**n1=n2;**

**n2=n3;**

**}**

**1.15.3. Determine the nines complements of the decimal numbers:**

4535 = 5464

507606 = 492393

78534019 = 21465980

**1.15.4. Determine the one’s and two’s complements of the binary numbers:**

110011 = 001100, 001101

10001100 = 01110011, 01110100

10111011101 = 01000100010, 01000100011

**1.15.5. Convert each binary number to its decimal equivalent:**

101 = 5

110110 = 54

111011001 = 473

101010101 = 341

**1.15.6. Convert each decimal number to its binary equivalent:**

2857 = 101100101001

4503 = 1000110010111

46098 = 1011010000010010

694 = 1010110110

**1.15.7. Write a program named Formula.java that displays the result of**

formu1

Public class exercise {

Public static void main (String[] args) {

Double result = (5.6 \* 5.6) – (4 \* 6.2 \* 5.1) / (2 \* 7.8) – (3 \* 5.6);

System.out.println(result); //

}

}

**1.15.9. SpeedLight.java**

The speed of sound is approximately 340 meters per second. Assume that you just saw a lightning flash and you heard the sound of thunder 5 seconds later. Write a program named SpeedLight.java that calculates the distance to a lightning strike based on the time elapsed between the flash and the sound of thunder.

import java.util.\*;

public class MyClass {

public static void main(String args[]) {

int speed=340;

int time=5; // if you want to take time as dynamic then use scanner class

//i.e Scanner sc=new Scanner(System.in); int time=sc.nextInt();

int distance=speed\*time;

System.out.println("Distance to a lightning strike is = " + distance+"meters");

}

}

**1.15.10. Chocolate.java**

Assume there are 9 bags of chocolate bars. Each bag has two chocolate bars. The bag is big enough to have three chocolate bars. If you want to take all the chocolates out of each bag and add three chocolate bars to each bag, how many bags will you need? Write a program to compute the number of bags you need to add three chocolates instead of two.

total\_bag = 9 # total bags available

each\_bag = 2 # chocolate in each bag before removing

total\_size = 3 # total chocolate one bag can hold at max

total\_chocolates = total\_bag \* each\_bag

new\_each\_bag = 3 # chocolate in each bag after removing

bags\_needed = total\_chocolates/new\_each\_bag

print("Total bags needed :", math.ceil(bags\_needed))

**1.15.11. Stamps.java**

Susan and Jean just started collecting stamps as a hobby. Susan has 8 endangered animal collection stamps, and Jean has 40 racing car collection stamps. How many more does Jean have than Susan? Write a program named Stamps.java that computes the difference between Jean’s and Susan’s collections of stamps.

**public class Stamp{**

**public static void main(String []args){  
int stamp\_of\_Susan=8; //Stamps of Susan  
int stamp\_of\_Jean=40; //Stamps of Jean  
int more\_stamps=stamp\_of\_Jean-stamp\_of\_Susan; //Finds how many stamps Jean has more  
//Prints the difference  
System.out.println("The difference in stamps of Jean and Susan is: "+more\_stamps);  
}  
}**

**1.15.12. Cycle.java**

In the Cycling shop, there are 10 bicycles and X number of tricycles. Assume that you count the number of wheels of the bicycles, and there are 47 wheels of the bicycles and tricycles. How many tricycles does this Cycle shop have? Write a program named Cycle.java and compute the total number of tricycles at the shop.

import java.util.Scanner;

public class Cycle

{

public static void main(String[] args) {

Scanner sc= new Scanner(System.in);

System.out.println("Enter the Number of wheels. ");

int wheels=sc.nextInt();

int tri=(wheels-20)/3;

System.out.println("Number of tricycles are "+tri);

}

}

**1.15.13. FindX.java**

Write a program named FindX.java to compute the number X based on the following formula: 5 + 19 + X + 47 = 194

public class FindX {

public static void main(String args[]) {

int x;

int y;

// 5+19+x+47=194;

x=194-47-19-5;

System.out.println("Value of X = " + x);

}

}

**1.15.14. MaleStudent.java**

Assume that there are 389 students in a small middle school. There are 175 female students. Write a program named MaleStudent.java to compute how many students are male in this middle school.

class MaleStudent {

public static void main(String[] args) {

int total = 389, girls = 175, boys;

System.out.printf("%d", total - girls);

}

}

**1.15.15. Circle.java**

Write a program named Circle.java that displays the area and perimeter of a Circle that has a radius of 9.5 using the following formula:

area = radius \* radius \* Math.PI

perimeter = 2 \* radius \* Math.PI