I/O Statements, Operators and Expressions

1.Welcome Message

"Pine Tree" is a recently launched startup Event Management company. The company gained a good reputation within a short span because of its highly reliable service delivery.

Nikhil, the founder of this company wished to take the company's services to the next step and decided to design an Event Management System that would let its Customers plan and host events seamlessly via an online platform. As a part of this requirement, Nikhil wanted to write a piece of code for his company's Amphi Event Management System that will welcome all the Customers who are using it. Help Nikhil on the task.

Output Format:

Output should display "Welcome to Amphi Event Management System".
Refer sample output for formatting specifications.

Sample Output:

Welcome to Amphi Event Management System

2.Customized Welcome Message

Nikhil, the founder of "Pine Tree" company wished to design an Event Management System that would let its Customers plan and host events seamlessly via an online platform.

As a part of this requirement, Nikhil wanted to write a piece of code for his company's Amphi Event Management System that will display customized welcome messages by taking Customers' name as input. Help Nikhil on the task.

Input Format:

First line of the input is a string that corresponds to a Customer's name. Assume that the maximum length of the string is 50.

Output Format:

Output should display the welcome message along with the Customer's name.
Refer sample input and output for formatting specifications.
[All text in bold corresponds to input and rest corresponds to output.]

Sample Input and Output:

Enter your name
Beena
Hello Beena ! Welcome to Amphi Event Management System

3.Number of events

"Pine Tree" Company has signed up a big time Event Management deal from the Rotary Youth Club for a Trade Fair organized at Codissia Complex, wherein all startup companies in the Software industry are demonstrating their latest products and services and meet with industry partners and Customers.

Amphi Event Management System has to be modified to write a piece of code that will get the input of the number of events to be hosted for the Fair at Codissia from its users and display the same. Help the company to accomplish the requirement.

Input Format:
First line of the input is an integer that corresponds to the number of events to be hosted at Codissia.

Output Format:
Output should display the number of events to be hosted at Codissia.
Refer sample input and output for formatting specifications.
[All text in bold corresponds to input and rest corresponds to output.]

Sample Input and Output:
Enter the number of events hosted in Codissia
50
Number of events hosted in Codissia is 50

4.Event Details

Be it a last minute get together, a birthday party or corporate events, the "Pine Tree" Event Management Company helps you plan and execute it better and faster. Nikhil, the founder of the company wanted the Amphi Event Management System to get and display the event details from his Customers for every new order of the Company.

Write a program that will get the input of the event details like name of the event, type of the event, number of people expected, a string value (Y/N) telling whether the event is going to be a paid entry and the projected expenses (in lakhs) for the event. The program should then display the input values as a formatted output.

Input Format:
First input is a string that corresponds to the name of the event. Assume the maximum length of the string as 50.
Second input is a string that corresponds to the type of the event. Assume the maximum length of the string as 50.
Third input is an integer that corresponds to the number of people expected for the event.
Fourth input is a character that corresponds to Y/N telling whether the event is going to be a paid entry or not.
Fifth input is a double value that corresponds to the projected expenses (in lakhs) for the event.

Output Format:
Output should display the event details as given in the sample output.
All double values need to be displayed correct to 1 decimal place
Refer sample input and output for formatting specifications.
[All text in bold corresponds to input and rest corresponds to output.]

Sample Input and Output:
Enter the name of the event
Food Fest 2017
Enter the type of the event
Public
Enter the number of people expected
5000
Is it a paid entry? (Type Y or N)
N
Enter the projected expenses (in lakhs) for this event
5.7
Event Name : Food Fest 2017
Event Type : Public
Expected Count : 5000
Paid Entry : N
Projected Expense : 5.7L

5.Total Expenses for the Event

The prime functionality of an Event Management System is budgeting. An Event Management System should estimate the total expenses incurred by an event and the percentage rate of each of the expenses involved in planning and executing an event. Nikhil, the founder of "Pine Tree" wanted to include this functionality in his company’s Amphi Event Management System and requested your help in writing a program for the same.

The program should get the branding expenses, travel expenses, food expenses and logistics expenses as input from the user and calculate the total expenses for an event and the percentage rate of each of these expenses.

Input Format:

First input is a double value that corresponds to the branding expenses.
Second input is a double value that corresponds to the travel expenses.
Third input is a double value that corresponds to the food expenses.
Fourth input is a double value that corresponds to the logistics expenses.

Output Format:

First line of the output should display the double value that corresponds to the total expenses for the Event.
Next four lines should display the percentage rate of each of the expenses.
Refer sample input and output for formatting specifications.
[All text in bold corresponds to input and rest corresponds to output.]

Sample Input and Output:

Enter branding expenses
20000
Enter travel expenses
40000
Enter food expenses
15000
Enter logistics expenses
25000
Total expenses : Rs.100000.00
Branding expenses percentage : 20.00%
Travel expenses percentage : 40.00%
Food expenses percentage : 15.00%
Logistics expenses percentage : 25.00%

6.Trade Fair

Trade Fairs are important for companies to present their products and to get in touch with its customers and business parties. One such grandeur Trade Fair Event was organized by the Confederation of National Large Scale Industry.
Number of people who attended the event on the first day was **x**. But as days progressed, the event gained good response and the number of people who attended the event on the second day was twice the number of people who attended on the first day. Unfortunately due to heavy rains on the third day, the number of people who attended the event was exactly half the number of people who attended on the first day.

Given the total number of people who have attended the event in the first 3 days, find the number of people who have attended the event on day 1, day 2 and day 3.

Input Format:
First line of the input is an integer value that corresponds to the total number of people.

Output Format:
First line of the output should display the number of attendees on day 1.
Second line of the output should display the number of attendees on day 2.
Third line of the output should display the number of attendees on day 3.
Refer sample input and output for formatting specifications.
[All text in bold corresponds to input and rest corresponds to output.]

Sample Input and Output:
Enter the total number of people
10500
Number of attendees on day 1 : 3000
Number of attendees on day 2 : 6000
Number of attendees on day 3 : 1500

7.Ticket sold for Charity Event

HelpIndia, a famous
NGO has been selective in identifying events to raise funds for charity. Suzanne is a volunteer from the NGO who was selling tickets to the public for the charity event. She sold **'X'** more adult tickets than children tickets and she sold twice as many senior tickets as children tickets. Assume that an adult ticket costs $5, children ticket costs $2 and senior ticket costs $3.
Suzanne made **'Y'** dollars from ticket sales. Find the number of adult tickets, children tickets and senior tickets.

Input Format:
First input is an integer value X that corresponds to the number of adult tickets more than children tickets.

Second input is an integer value Y that corresponds to the money in dollars made by Suzanne from ticket sales.

Output Format:

First line of the output should display the number of children tickets sold.
Second line of the output should display the number of adult tickets sold.
Third line of the output should display the number of senior tickets sold.
Refer sample input and output for formatting specifications.
[All text in bold corresponds to input and rest corresponds to output.]

Sample Input and Output :

Enter the value of X
10
Enter the value of Y
700
Number of children tickets sold : 50
Number of adult tickets sold : 60
Number of senior tickets sold : 100

8.Tile Game

In connection to the National Mathematics Day celebration, the Regional Mathematical Scholars Society had arranged for a Mathematics Challenge Event where school kids participated in large number. Many interesting math games were conducted, one such game that attracted most kids was the tile game where the kids were given **'n'** square tiles of the same size and were asked to form the largest possible square using those tiles.

Help the kids by writing a program to find the area of the largest possible square that can be formed, given the side of a square tile (in cms) and the number of square tiles available.

Input Format:

First line of the input is an integer that corresponds to the side of a square tile (in cms).
Second line of the input is an integer that corresponds to the number of square tiles available.

Output Format:

Output should display the area of the largest possible square that can be formed (in square cms) with the available tiles.
Refer sample input and output for formatting specifications.
[All text in bold corresponds to input and rest corresponds to output.]

Sample Input and Output :

Enter the side in cm of a square tile
5
Enter the number of square tiles available
8
Area of the largest possible square is 100sqcm

9.Wisconsin State Fair

Wisconsin State Fair is one of the largest midsummer celebrations in the Midwest Allis, showcasing the agriculture skills and prowess of the state. The Event organizers hired few part-time employees to work at the fair and the agreed salary paid to them are as given below:

Weekdays --- 80 / hour
Weekends --- 50 / hour

Justin is a part-time employee working at the fair. Number of hours Justin has worked in the weekdays is 10 more than the number of hours he had worked during weekends. If the total salary paid to him in this month is known, write a program to estimate the number of hours he had worked during weekdays and the number of

hours he had worked during weekends.

Input Format:
First line of the input is a double value that corresponds to the total salary paid to Justin.

Output Format:
First line of the output should display the number of hours Justin has worked during the weekdays.
Second line of the output should display the number of hours Justin has worked during the weekends.
Refer sample input and output for formatting specifications.
[All text in bold corresponds to input and rest corresponds to output.]

Sample Input and Output:

Enter the total salary paid
2750
Number of weekday hours is 25
Number of weekend hours is 15

10.WonderWorks Magic Show

The Magic Castle, the home of the Academy of Magical Arts at California has organized the great ‘WonderWorks Magic Show’. 3 renowned magicians were invited to mystify and thrill the crowd with their world’s spectacular magic tricks. At the end of each of the 3 magicians’ shows, the audience were requested to give their feedback in a scale of 1 to 10. Number of people who watched each show and the average feedback rating of each show is known. Write a program to find the average feedback rating of the WonderWorks Magic show.

Input Format:
First line of the input is an integer value that corresponds to the number of people who watched show 1.
Second line of the input is a float value that corresponds to the average rating of show 1.

Third line of the input is an integer value that corresponds to the number of people who watched show 2.
Fourth line of the input is a float value that corresponds to the average rating of show 2.
Fifth line of the input is an integer value that corresponds to the number of people who watched show 3.
Sixth line of the input is a float value that corresponds to the average rating of show 3.

Output Format:

Output should display the overall average rating for the show. Display the rating correct to 2 decimal places.
Refer sample input and output for formatting specifications.
[All text in bold corresponds to input and rest corresponds to output.]

Sample Input and Output:

Enter the number of people who watched show 1
400
Enter the average rating for show 1
9.8
Enter the number of people who watched show 2
500
Enter the average rating for show 2
9.6
Enter the number of people who watched show 3
100
Enter the average rating for show 3
5
The overall average rating for the show is 9.22

11.Birthday Challenge

Louis was celebrating his 10th Birthday and his parents wished to make his birthday more special by throwing a surprise bash, inviting all their friends, relatives and neighbors. The little mathematics geek Louis has another surprise waiting for him when he had to cut his favorite Choco vanilla cake. The cake is a rectangular cake and it consists of $m \times n$ ($1 \leq m, n \leq 1000$) squares. His friends now called him out for a challenge.

The challenge is that, Louis has to break the cake up into 1×1 pieces (individual squares) and find what is the minimum number of times that he breaks the choco vanilla cake, or pieces thereof, in order to achieve this?

Note that he cannot stack pieces of the cake and break them, because the choco vanilla cake is thick. As an example, a 2×2 cake requires 3 breaks. First he can break it in half, then break each of the halves in half. He cannot break it in half, stack

the two 1×2 pieces, and then use only one more break to achieve his goal.

Input Format:
First line of the input consists of an integer, the dimensions *m* of the choco vanilla cake.
Second line of the input consists of an integer, the dimensions *n* of the choco vanilla cake.

Output Format:
Output the minimum number of times that he breaks the choco vanilla cake
Refer sample input and output for formatting specifications.
[All text in bold corresponds to input and rest corresponds to output.]

Sample Input and Output 1:
Enter m
1
Enter n
2
Minimum number of times is 1

Sample Input and Output 2:
Enter m
2
Enter n
2
Minimum number of times is 3

12.Lucky Gifts

"Planet Kids Entertainment Fair" is back to delight kids and parents. The Fair will have non-stop entertainment with an extravaganza of games, exciting rides, sports, art & crafts, role-plays, inspiring competitions, prizes & gifts, and yummy food.

Few lucky attendees at the Fair will be given a pack of candies as a lucky gift and the show coordinator has assigned you the task for choosing the number of attendees who will receive the pack of candies. There are **'N'** candies available and you need to decide how many candies to place in each pack. Each pack must contain the same number of candies. You should choose an integer **A** between **1** and **N**, inclusive, and place exactly **A** candies into each pack. You should make as many packs as possible but since you enjoy eating candies very much, you eat the remaining candies.

Write a program that will calculate the maximum number of candies per pack that

can be made with **'N'** candies so that you can also maximise the number of candies that you can eat.

Input Format:
The first and only line of input contains an integer **N**.

Output Format:
Output a single line that gives the maximum number of candy packs that can be made with **'N'** candies.
Refer sample input and output for formatting specifications.

Sample Input 1:
2

Sample Output 1:
2

Sample Input 2:
5

Sample Output 2:
3

13.Pranav and Change

Pranav, an enthusiastic kid visited the "Fun Fair 2017" along with his family. His father wanted him to purchase entry tickets from the counter for his family members. Being a little kid, he is just learning to understand about units of money. Pranav has paid some amount of money for the tickets but he wants your help to give him back the change of Rs. **N** using minimum number of rupee notes.

Consider a currency system in which there are notes of seven denominations, namely, Rs. 1, Rs. 2, Rs. 5, Rs. 10, Rs. 50, Rs. 100. If the change given to Pranav Rs. **N** is input, write a program to computer smallest number of notes that will combine to give Rs. **N.**

Note:
Refer to problem specifications.

Input Format:
First line of the input is an integer N, the change to be given to Pranav.

Output Format:
Output should display the the smallest number of notes that will combine to give **N**.
Refer sample input and output for formatting specifications.

Sample Input 1:
1200

Sample Output1:
12

Sample Input 2:
242

Sample Output2:
7

14.Food Festival at HillTown

HillTown Inn is planning to organize a Food Festival bringing together at one place, a wide variety of cuisines from across the world on account of Christmas. The Hotel Management has rented out a square hall of an indoor Auditorium for this extravaganza. The side of the square hall is ***y*** inches in which a large square table is placed for the display of the most popular and celebrated food items. The side of the square table is ***x*** inches, such that x<y.

The Management wanted to fill the remaining floor area with a decorative carpet. To get this done, they needed to know the floor area to be filled with the carpet. Write a program to help the Management find the area of the region located outside the square table, but inside the square hall.

Input Format:
First line of the input is an integer *y*, the side of the square hall.
Second line of the input is an integer x, the side of the square table placed for

display.

Output Format:
Output should display the area of the floor that is to be decorated with the carpet. Refer sample input and output for formatting specifications.
[All text in bold corresponds to input and rest corresponds to output.]

Sample Input and Output 1:
Enter the side of the square hall
7
Enter the side of the square table placed for display
3
Area to be decorated is 40

Sample Input and Output 2:
Enter the side of the square hall
5
Enter the side of the square table placed for display
2
Area to be decorated is 21

15.Talent Show

Mountain View Middle School is all set for organizing their elaborate talent show event of the year, "Stars Onstage". It is a fun-filled event for the students to showcase and build their confidence.

Of the total audience who had come for the show, 1/3 were boys, 3/6 were girls and the rest of them were adults. If there were **'x'** more girls than adults, how many people were there in total? Help the School authorities to find the total people who visited their show.

Input Format:
First line of the input is an integer 'x', which corresponds to the count of girls more than adults.

Output Format:

Output the total number of people who had visited the talent show.
Refer sample input and output for formatting specifications.
[All text in bold corresponds to input and rest corresponds to output.]

Sample Input and Output1:

Enter x
50
150 people were there in total

Sample Input and Output2:

Enter x
70
210 people were there in total