ASSIGNMENT 1

Object Oriented Programming

Java Programming Language

Introduction

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Try to write the most optimum solution for the following problems.

Use your full name as a title of message. My email is eng.slamaa@gmail.com

Dead-time 29-8-2020

Assignment

1	(*Sort three integers*) Write a program that prompts the user to enter three integers and displays them in increasing order.
2	(*Find the number of days in a month*) Write a program that prompts the user to enter the month and year and displays the number of days in the month. For example, if the user entered month 2 and year 2000, the program should display that February 2000 has 29 days. If the user entered month 3 and year 2005, the program should display that March 2005 has 31 days.

3	(*Game: scissor, rock, paper*) Write a program that plays the popular scissor-rock-paper game. (A scissor can cut a paper, a rock can knock a scissor, and a paper can wrap a rock.) The program randomly generates a number 0, 1, or 2 representing scissor, rock, and paper. The program prompts the user to enter a number 0, 1, or 2 and displays a message indicating whether the user or the computer wins, loses, or draws. Here are sample runs:
	`scissor (0), rock (1), paper (2): 1 Enter`
	`The computer is scissor. You are rock. You won.`
	`scissor (0), rock (1), paper (2): 2 Enter`
	`The computer is paper. You are paper too. It is a draw.`

4	(*Compute the perimeter of a triangle*) Write a program that reads three edges for a triangle and computes the perimeter if the input is valid. Otherwise, display that the input is invalid. The input is valid if the sum of every pair of two edges is greater than the remaining edge. Here is a sample run:
	`Enter three edges: 1, 1, 1 Enter`
	`The perimeter is 3`
	`Enter three edges: 1, 3, 1 Enter`
	`The input is invalid`

5	(*Count positive and negative numbers and compute the average of numbers*) Write a program that reads an unspecified number of integers, determines how many positive and negative values have been read, and computes the total and average of the input values (not counting zeros). Your program ends with the input 0. Display the average as a floating-point number. Here is a sample run:
	`Enter an integer, the input ends if it is 0: 1` Enter
	`Enter an integer, the input ends if it is 0: 2` Enter
	`Enter an integer, the input ends if it is 0: -1` Enter
	`Enter an integer, the input ends if it is 0: 3` Enter
	`Enter an integer, the input ends if it is 0: 0` Enter
	`The number of positives is 3`
	`The number of negatives is 1`
	`The total is 5`
	`The average is 1.25`
	`Enter an integer, the input ends if it is 0: 0` Enter
	`You didn't enter any number`

6	(*Find numbers divisible by 5 and 6*) Write a program that displays, ten numbers per line, all the numbers from 100 to 1,000 that are divisible by 5 and 6. The numbers are separated by exactly one space.
7	(*Find numbers divisible by 5 or 6, but not both*) Write a program that displays, ten numbers per line, all the numbers from 100 to 200 that are divisible by 5 or 6, but not both. The numbers are separated by exactly one space.
8	(*Find the two highest scores*) Write a program that prompts the user to enter the number of students and each student's score, and displays the highest and second-highest scores.
9	(*Find the factors of an integer*) Write a program that reads an integer and displays all its smallest factors, also known as *prime factors*. For example, if the input integer is 120, the output should be as follows: `2, 2, 2, 3, 5`

Best wishes

Dr. Amany A.Slamaa