Department of **C**omputer **S**cience

Vincent Mary School of Science and Technology, Assumption University

CS1201 Computer Programming 1

Quiz 1, First semester 2021

12th July 2021 (15:30-16:30)

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Instructions:

1. There are 3 questions in this exam paper (15 marks total), with the total number of 4 pages including this page.
2. The exam duration is 60 minutes.
3. In each question, create a Python program and name it in this format Question#_StudentId where StudentId is your student Id. For instance, if your student Id is 6410000;
   3.1. For question 1, name your program as Question1_6410000.
   3.2. For question 2, name your program as Question2_6110000.
   3.3. For question 3, name your program as Question3_6110000.
4. Submission with related Microsoft Teams Assignment
5. If your program contains any errors or cannot run, **no marks**.
6. Documents or calculators are allowed

*** This examination is worth 5% toward the final grade. ***

1. (5 marks) Height of Cylinder

Cylinder formula is $V = \pi r^2 \times h$,
where ***V*** is a volume, ***r*** is a radius, and ***h*** is height.

Write a program that asks the user for the volume and the radius. The program then specifies how much height of the cylinder would be. The program prints out the result in this format.

Sample run (input/output)

(1)	Height of Cylinder Enter the volume: 100 Enter the radius: 5 The cylinder's height would be 1.2727272727272727
(2)	Height of Cylinder Enter the volume: 700 Enter the radius: 200 The cylinder's height would be 0.0055681818181818185
(3)	Height of Cylinder Enter the volume: 78.1 Enter the radius: 5 The cylinder's height would be 0.994
(4)	Height of Cylinder Enter the volume: 22 Enter the radius: 2.64575131106459 The cylinder's height would be 1.0000000000000007

Note that: underlining text is a user's input.

2. (5 marks) BMI calculator.

Body mass index (BMI) is a measure of body fat based on height and weight that applies to adult men and women.

Write a program that accepts the weight (in kg) and the height (in m). Then calculate the BMI using the following formula:

$$\text{BMI} = \text{kg/m}^2$$

Your program must print out the BMI in 2 decimal places and classify that person based on his/her BMI. Use the following criteria.

Given BMI criteria is defined as follows:

- below 18.5, underweight
- 18.5 <= BMI < 25, normal
- 25 <= BMI < 30, overweight
- 30 or above obese

Sample run (input/output)

(1)	Enter your weight in kilograms: 55 Enter your height in meters: 1.75 Your BMI is 17.96, you are underweight.
(2)	Enter your weight in kilograms: 95 Enter your height in meters: 1.83 Your BMI is 28.37, you are overweight.

Note that: underlining text is a user's input.

3. (5 marks) Sum of Anything Divisible by 3, 5, or 6.

Write a program that asks the user for one number. The program then prints out the numbers that divisible by 3, 5, or 6 starting from 0 until the input number. The program also prints the summation of all printing numbers. If there is no printing numbers, prints "No results"

Sample run (input/output)

(1)	`Enter number: 13`
	`The results are 3, 5, 6, 9, 10, 12`
	`The sum is 45`

(2)	`Enter number: 2` `No results`

Note that: underlining text is a user's input.