CIS020-1 - Introduction to Software Development  
CIS093-1 – Mathematics and Concepts for Computational Thinking

Programming Workshop 1 – Extra Exercises

**P1**

Write a simple Python program that displays the following powers of 2, one per line:

21, 22, 23, 24, 25, 26, 27, 28

**P2**

Write a Python program that allows the user to enter any integer value, and displays the value of two raised to that power. Your program should function as shown below.

What power of two? 10

Two to the power of 10 is 1024

**P3**

Write a Python program that allows the user to enter any integer base and integer exponent, and displays the value of the base raised to that exponent. Your program should function as shown below.

What case? 10

What power of 10? 4

10 to the power of 4 is 10000

Note:

At this point, students do not know how to concatenate strings to create the input prompt string as specified in the problem. This needs to be pointed out to students.

**P4**

Write a Python program that allows the user to enter a four-digit binary number and displays the value in base 10. *Each binary digit should be entered one per line, starting with the leftmost digit*, as shown below.

Enter leftmost digit: 1

Enter the next digit: 0

Enter the next digit: 0

Enter the next digit: 1

The value is 9

**P5**

Write a simple Python program that prompts the user for a certain number of cities for the Traveling Salesman problem, and displays the total number of possible routes that can be taken, Your program should function as shown below.

How many cities? 10

For 10 cities, there are 3628800 possible routes

**M1**

Hello Program: Addition of Entry of First Name

Modify the sample “hello” Python program to first request the user’s first name, and then request their last name. The program should then display,

Hello *firstname lastname*

Welcome to Python! (for the *firstname* and *lastname* entered).

What is your first name? John

What is your last name? Smith

Hello John Smith

Welcome to Python!

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