Metropolitan State University

ICS 140 Computational Thinking with Programming

Class Exercise 3

**Lecture Section**

1. What is the difference between floating point division and integer division?

The floating point will return fractional numbers while integer will drop the decimal and only return integer numbers.

1. When dividing numbers, how do you find the remainder?

You divide using integer numbers until you are unable to divide further, the amount left is the remainder.

1. How do you write an expression for x to the power of y?

X\*\*y

1. What happens when you use the int() function to convert a float to an integer?

The int() will convert float to integer rounding down towards zero.

1. How do you break a long line into 2 separate lines that execute as one?

You use a back slash ( \ )

1. How do you insert a new line into a string of text?

You use \n

1. How do you change the default behavior of the print function that causes it to add a new line after each statement?

You use the end=’’ function inside the print function.

1. What function can you use to change the way a number is formatted when printing it out?

You can use format() or the letter f before the string or add a .format() at the end.

1. What is a magic number and why is it bad?

It is a number that has no meaning or description in the code

1. How do you create a named constant in python?

You put a variable = to whatever your assigning to the variable

**Python Commands**

For the following questions, write the expected output:

1. print(3 / 2)

1.5

1. print(7 // 3)

2

1. print(3 % 2)

1

1. print(3 + 4 \* 2)

14

1. print((3 + 2) \* 5)

25

1. print(3 + 4\*\*2 % 3)

4

1. print(format(1234 \* 10, ',d'))

12,340

1. print(format(1234 / 10, ‘.2f’))

123.40

1. print(format(123467, ',.2f'))

123,467.00

1. print(format(.75,'.0%'))

75%

**Programming Exercise**

For the following exercise, please list out some test cases and paste the code into this document.

Create a program that calculates the miles per gallon (MPG) efficiency of a vehicle. Prompt the user to enter the Miles driven and gallons of gas used. Print out the MPG as a float to 3 decimal places.

**Python Code**

**Test Cases and Results**

**A screenshot of a computer program

Description automatically generated**