September 20, 2018

Notebook:	Computers and Programming I		
Created:	9/20/2018 2:39 PM	**Updated:**	9/20/2018 3:36 PM
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- 7// 2 = 3
- 7%2 = 1
- 2%7 = 2
- -7//4 = -4
    - Decimals always push answers to the next lowest integers
- Exponents are written as followed
    - 2**3 = 2^3
- This cannot work in python : x = 2a + 5
    - We have to write x = 2*a + 5
- Parentheses are very important when writing fractions with two terms in the denominator
- Data type resulting from math operation depends on data types of operands
    - Two int values: result in an int
    - Two float values: result in a float
    - int and float: int temporarily converted to float, result of the operation is a float
- Long statements cannot be viewed on screen with out scrolling and cannot be printed without cutting off
- Multi line continuation character (\): allows to break a statement into multiple lines
- Any part of a statement that is enclosed in parentheses can be broken without the line continuation character.
- Print function displays line of output
    - Newline character at the end of printed data
    - Special argument end= 'delimiter'
    - print ("Hello", end= '*')
    - print("World", end= '*')
    - Hello * World*
- print function uses spaces as item separator
    - Special argument sep= 'delimiter' causes print to use delimiter as item separator
    - print ('one', 'two', 'three', sep='---')
    - one---two---three
- Special characters appearing in string literal
    - Preceded by backlash (\)
    - Example: newline (\n), horizontal tab (\t)
    - Treated as commands embedded in string
- When + operator used on two strings in performs string concatenation
    - useful for breaking up a long string literal
    - print('This is' + 'one string')
- print ('I\'m ready')
    - \ instructs python to avoid quotation mark immediately after
- Built in "format" function can limit decimals for numbers
    - print(format(1234.567, '.2f '))
    - Output: 1234.57
    - Can be used to indicate scientific notation, comma separators, and the minimum field wid
        - print(format(1234.567, '.2e '))
            - Output 1.23 e+3
- The "%" sign can be used to in the format function to format a number as a percentage
- We can control field width (how many digits can be displayed)
    - See page 71 for example
    - print(format(1234.567, '6,.2f '))
    - Output: 1234.57
- A name constant is a name that represents a value that does not change during the program's execution
    - Example: pi = 3.14159
    - Advantage:
        - Code is self explanatory

- - Helps to reduce manual labor when mistakes are made (prevention of typographical numbers) \
  - Easier to manipulate outcome
- Monday's quiz will be about the rest of chapter two (from variables on wards). DO NOT STUDY FOR TURTLE DRAWING (will not be covered in quizzes or exams).