QUEENSBOROUGH COMMUNITY COLLEGE
The City University of New York
Department of Engineering Technology

Programming Exercises – Variables

1. Write **one** print statement to display your own name in two separate lines, first name in the first line and last name in the second line. Save your code as *PE1_1.py*.

```
Example Output:
John
Smith
```

2. Print the following text to the console by using '\t' and '\n' syntax. Save your code as *PE1_2.py*.

```
Example Output:
Item              Price
Apple             $1.75
Banana            $2.25
Cherry            $3.50
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Total             $7.50
```

3. Write **one** print statement to display the following quote. Save your code as *PE1_3.py*.

```
Example Output:
Albert Einstein once said,
"A person who never made a mistake
never tried anything new."
```

4. Write **one line of code** for each step a - e. Save your code as *PE1_4.py*.
Discounted Price – The following steps calculates the price of an item after 25% reduction.
a) Create a variable *price* and assign it the value 99.99.
b) Create a variable *discountPercent* and assign it the value 25.
c) Create the variable *markdown* and assign it the value of *discountPercent* divided by 100 times the value of *price*.
d) Decrease the value of *price* by *markdown*.
e) Display the value of price (round to two decimal places).

```
Example Output:
Price = 74.99
```

5. *Gas Mileage* – At 23,456 miles (on the odometer) the tank is filled. At 23,678 miles the tank is filled again with 9 gallons. Write some lines of code to calculate the miles per gallon the car averaged between the two fillings?
*Make sure to use **variables**, display with **units**, and the last output should be **rounded/set** to three decimal places (see example output below)*. Save your code as *PE1_5.py*.

```
Example Output:
Distance Traveled: 222 Miles
Gallon Used: 9 Gallons
How many miles per gallon did the car average between two fillings?
Answer: 24.667 Miles/Gallon
```

6. 1 - 12 evaluate the numeric expression without the computer, and then use Python to check your answer.

1) 2+3*4	2) 1-7**2	3) 1//2**3
4) (3+4)*5	5) (5%3)*4	6) (-2)**(-2)
7) 7//3	8) 14%4	9) 1+7%4
10) 14//4*4	11) 5//2+2	12) 5%5*5

13 – 18 determine whether the name is a valid variable name. Explain your answer.

13) NewYear.sales	14) room&color	15) TOrF_1040
16) 311HotLine	17) expense#	18) INCOME 101

19 – 24 rewrite the statements using augmented assignment operators.

19) cost = cost + 5	20) sum = sum * rate	21) product = product / 10
22) cost = cost // num	23) total = total – cost	24) quotient = quotient % rate

25 – 27 find the value of the function where a = 5 and b = 2.

25) int(-a / b)	26) round(a / b, 2)	27) abs(b - a)