Homework 1 – Basic output and computation

Due on Thursday, September 8, 2016 12:00 PM

Instructions: For problems 6-8 write Python scripts (.py files). Use variables where necessary and give meaningful names to variables. All script files should have a comment block at the top. Each Python instruction in the script must be preceded by a comment explaining the instruction. Upload a .pdf file containing your solution along with your .py files. If you solve on paper, please upload a good quality scan using CamScanner/Office Lens/iScanner.

Problem 1. Write a python statement that displays the following text: **[10 points]**

```
"I don't care," she said. "What do you think?"
```

Problem 2. Create two variables to store your first name and last name. Display your full name by referencing those variables. **[10 points]**

Problem 3. What will be the output of the following code? **[10 points]**

```
num = 113
print('The value is', 'num')
```

Problem 4. Given the assignment `x = 97`, what will be the output of each of the following Python statements? **[10 points]**

(a) `print("x")`
(b) `print('x')`
(c) `print(x)`
(d) `print("x + 1")`
(e) `print('x' + 1)`

Problem 5. For the given assignment statements, what will be the Python data type of the variables? **[10 points]**

(a) `val1 = 15.00`
(b) `val2 = 9`
(c) `val3 = '7'`
(d) `val4 = 3.7`
(e) `val5 = 'abc'`

Problem 6. Draw a flowchart and write a program that displays the perimeter of a circle that has a radius of 8.1 using the formula $perimeter = 2 \times PI \times radius$. Use `PI = 3.14`. **[25 points]**

Problem 7. The distance between two cities is 500 miles. Draw a flowchart and write a program to display the distance in kilometers. Assume 1 mile = 1.6 kilometers. **[25 points]**

Problem 8 (bonus). Write a program to compute the surface area and volume of a cylinder. The program should prompt the user to input the radius and length of the cylinder, and should output the surface area and volume based on the formulas $area = PI \times radius \times radius$ and $volume = area \times length$. Use `PI = 3.14`. **[20 points]**