**Tut 01: Problem set 1**

Problem 11. What is the difference between an Algorithm and a Program?  
(a) An algorithm is a conceptual idea, a program is a concrete instantiation of an algorithm.  
(b) An algorithm is limited to mathematical operation, a program can specify all kinds of operations.  
(c) An algorithm makes a slow program run fast.  
(d) An algorithm deals with computer hardware, a program deals with computer software.

2. True or False? A computational mode of thinking means that everything can be viewed as a math  
problem involving numbers and formulas.  
(a) True  
(b) False

3. True or False? Computer Science is the study of how to build efficient machines that run programs.  
(a) True  
(b) False

4. The two things every computer can do are:  
(a) Perform calculations  
(b) Convert electricity to numbers  
(c) Display results to a screen  
(d) Remember the results

5. In the following numeric expression, what is evaluated first?  
4 ∗ a + 7=(x - y) + (n ∗ ∗3)  
(a) (x - y)  
(b) (n ∗ ∗3)  
(c) 4 ∗ a(d) a + 7  
Problem 21. A sequence of instructions is called a(n) .  
(a) program  
(b) high-level language  
(c) interpreter  
(d) flowchart  
2. Writing Python statements is called .  
(a) coding  
(b) compiling  
(c) interpreting  
(d) processing  
3. Which programming tool graphically depicts the logical steps to carry out a task and show how the  
steps relate to each other?  
(a) flowchart  
(b) hierarchy chart  
(c) algorithm  
(d) pseudocode  
4. Which programming tool uses English-like phrases with some Python terms to outline the task?  
(a) algorithm  
(b) hierarchy chart  
(c) flowchart  
(d) pseudocode  
5. Integer division is accomplished using the operator.  
(a) //  
(b) %  
(c) /  
(d) /=  
Problem 3You are given the following pseudocode to determine if a number is even or odd. Create a flowchart for this  
program.  
• get number  
• If the number is divisible by 2 without a remainder  
• display the number is even  
• else  
• display the number is odd

Start

Get number

Num%2==0

false true

display odd display even

stop stop