**SYST 13416**

**Assignment 4: Bash Scripts**

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| Student Name: | Timothy Pang |
| Class day/time: | Thursday March 30 2017 |

Please read the instructions below carefully. Each question is worth 4 points.

**Script 1: strcmp.sh**

* Write a script that asks the user to enter two strings (**from STDIN**).
* The script should compare the two strings then display a message stating whether the strings are equal to each other or not. If the strings are not equal, the script should say which string is greater than the other (if sorted). Make sure you use the correct comparison operator.
* Make sure your if command does not contain any redundant tests. It should be exactly like this: **if..elif..else..fi**
* The script should work even if the strings contain spaces.
* Test your script with two sets of inputs. One test run should contain two strings that are the same (your first name and last name). The second test run should be done with two different strings (you pick the strings). Make sure the strings in the test runs contain at least one space.

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| 1. Copy and paste your script below. |
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| 1. Paste a screenshot below showing the two test runs. |
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**Script 2: cube.sh**

* Write a script that takes the side of a cube (integer) as a **command line argument**.
* Your script should check that the user called the script with exactly one argument. Do not worry about checking that the argument was indeed a number or an integer. If the number of arguments is not 1, the script should display an error message and exit.
* Calculate the area of one side of the cube.
* Calculate the total surface area of the cube (area of one side multiplied by 6).
* Calculate the volume of the cube.
* Display the results (area of one side, total surface area and volume) in a neat way.
* Test your script with the value 5.

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| 1. Copy and paste your script below. |
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| 1. Paste a screenshot below showing the test run. |
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**Script 3: calc.sh**

* Write a script that prompts the user to enter (**from STDIN**) two integers, and a character ‘s’ for calculating the sum or ‘p’ for calculating the product of those numbers.
* For example, when prompted, the user would enter **on one line** (use only one **read** command to read all three values):   
  **4 5 s** to calculate the sum of 4 plus 5, or   
  **4 5 p** to calculate the product of 4 times 5.
* Calculate **EITHER** the sum or the product of the accepted numbers based on the value of the character. If the character entered is neither ‘p’ nor ‘s’, an error message should be displayed.
* Example of output:   
  2 + 3 = 5 or   
  2 \* 3 = 6
* Test your script three times, once with the input “4 5 s”, once with “4 5 p”, and once with “4 5 d”.

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| 1. Copy and paste your script below. |
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| 1. Paste a screenshot below showing the two test runs. |
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**Script 4: circle.sh**

* Write a script that calculates the **radius** and **area** of a circle when its circumference is given.
* The relevant formulas are:  
  RAD = CIRC / (2 \* PI)  
  AREA = PI \* RAD2
* The script should be given the **circumference** as a **command line argument**.
* The answers should be accurate to 2 decimal places.
* You can set the value of PI in your script by using the command: PI=3.1415
* Test your script twice with a circumference **value of 5**. **Make sure you use 5 as input in your test run.**

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| 1. Copy and paste your script below. |
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| 1. Paste a screenshot below showing the test run. |
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Before submitting this file in SLATE, rename it to **As4-FirstName-LastName.docx.** **Save as PDF**, and submit the **PDF file**.