**Module 2 Practice Exercises**

**COMPSCI 115**

1. Write a python program to get the following integer numbers using the input function and then convert them to binary, hexadecimal, and octal

355

4790

7609

1. Write a python program to get the following float numbers using the input function and then convert them to integers

76.89

45.89899

43.58

1. Having the following string:

“Department of Mathematical and Digital Sciences, Bloomsburg University of Pennsylvania”

a. Display the length of the string

b. Display the characters of the string between indices 10 and 30

c. Convert all the string’s characters to lowercase and display it at the output

d. Convert all the string’s characters to uppercase and display it at the output

e. Replace the character “e” by “O” in all string and display it at the output

1. Having the following string:

“Bloomsburg University of Pennsylvania was established as Bloomsburg Academy in \_\_\_\_\_(a). In \_\_\_\_\_ (b) it was renamed Bloomsburg Literary Institute”

1. 1839
2. 1856

Insert the integers (a) and (b) in the above string using format() method

1. You can calculate the surface area of a cube if you know the length of an edge. Write a program that takes the length of an edge (an integer) as input and prints the cube’s surface area as output.
2. Write a program that takes the radius of a sphere (a floating-point number) as input and then outputs the sphere’s diameter, circumference, surface area, and volume.
3. An object’s momentum is its mass multiplied by its velocity. Write a program that accepts an object’s mass (in kilograms) and velocity (in meters per second) as inputs and then outputs its momentum.
4. The kinetic energy of a moving object is given by the formula K.E. = 1/2 m v2

 where m is the object’s mass and v is its velocity. Modify the program you created in exercise 7 so that it prints the object’s kinetic energy as well as its momentum (is equal to mass (m) times velocity (v)).