

## FPU Fall 2020 - COP 3337C Homework-2

**Due Date & Time:** 10/14/2020 Wednesday – 11.59pm through CANVAS.

**Total Marks:** 10 marks.

**Weight in final Grade:** 4%

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### **Part- 1:** Carry 6 marks.

Create a C++ project and upload it under homework-2 in the Canvas. Use Your First Name + Your Last Name + Part-1 + HW2. For example, Bayazit\_Karaman\_Part1\_HW2.zip.

Write a complete C++ program that defines, implements, and utilizes a *Lion* class. Definition of class should be separated from the implementation. Therefore, the project includes one header file called *Lion.h* and two cpp files called *Lion.cpp* and *TestLion.cpp*. All constructors and methods should be implemented in *Line.cpp* file.

The Lion class consists of following components.

- Properties (MUST be *private*)
  - weight: *double* (lbs)
  - height: *double* (ft)
  - gender: *char* (F or M)
- Constructors
  - No-argument constructor: the constructor with no parameter
  - User-defined constructor: with the same number of parameters as properties.
- Methods
  - For each private property, create one *get()* method and one *set()* method to provide reading and writing access to this property. Here, there should be three *get()* methods and three *set()* methods.
  - *toPrint()*: It prints current values of all properties.
  - *eat()*: It prints how many pounds of food requires for male and female lions. While average male lion requires 8 pounds of food, female lions eat 6 pounds.

**Part- 2:** Carry 4 marks.

Create a C++ project and upload it under homework-2 in the Canvas. Use Your First Name + Your Last Name + Part-1 + HW2. For example, **Bayazit\_Karaman\_Part2\_HW2.zip**.

Write a complete C++ program that defines, implements, and utilizes a *Snake* class. Definition of class should be separated from the implementation. Therefore, the project includes a header file called *Snake.h* and two cpp files called *Snake.cpp* and *TestSnake.cpp*. All constructors and methods should be implemented in *Snake.cpp* file.

The Snake class consists of following components.

- Properties (MUST be *public*)
  - color: *string*
  - length: *double*
  - venomous: *bool*
- Constructors
  - No-argument constructor: the constructor with no parameter
  - User-defined constructor: with the same number of parameters as properties.
- Methods
  - *display()*: It prints current values of all properties.
  - *bite()*: It prints whether the bite of the snake is venomous or nonvenomous.