

**Lab Assignment # 1****Due: Thurs. Feb. 19, 2009**

**Goal:** This assignment is meant to help you learn some basic RIB scripting and 3D graphics geometry. Keep your work for future use, we will apply some of the math and physics we'll cover in lecture to some of these objects.

**Directions:** You can work with others and discuss the assignment, but each student must write his/her own, independent solution. If you are unsure about what I mean by this, please ask!

While I encourage you to create your own file from scratch, a template file for each of the models is provided in the [course website](#)

**Problem 1.** Use basic RenderMan primitives to create a teapot. Use the commands `ObjectBegin` and `ObjectInstance` to create and *instanciate* five different objects of your teapot: (i) bottom part of the teapot body (including a disk/cylinder at the very bottom), (ii) top part of the teapot, (iii) a lid, (iv) a spout, and (v) a handle.

**Problem 2.** A pendulum consisting of a *massless* rod and a *massive pendulum bob* attached to a *frictionless pivoting point*.

**Problem 3.** A Ferris wheel that will eventually rotate over its central axis, take this into account when designing it and mount the wheel on some supporting system. The wheel should have a few carts evenly distributed along its circumference. Design only one cart and instanciate it as many times as you need to.

**Lab work submission instructions:**

1. create a solution directory called `math496_lab1_xy`, where `x` and `y` stand for your initials
2. save/move/copy to that directory a copy of the `.rib` file you created for each of the models below and at least one view of each object in `.tiff` format
3. if rendering any of your `.rib` files requires any additional files (*e.g.*, shader or texture files) include them in your submission and include comments in the corresponding `.rib` file so that I can render it if needed.
4. zip your solution directory, *i.e.*, create a file called `math496_lab1_xy.zip` that contains the solution directory
5. upload that file to the [course submission system](#)