

## CS342 Fall 2015 Midterm 2

*For every question clearly state any assumptions you make in your Class design as well as any design patterns used in the design. Also ensure that you clearly define which methods are abstract, and which methods should be implemented. You may abstract out any non-design pattern specific code. Example: runsTest()*

1. (3 points) Identify 1 weakness of the following Design Patterns

a. Composite

b. Internal Iterator

c. Command

CS342 Fall 2015 Midterm 2

2. (3 points) Identify 1 use case scenario of the following concepts
  - a. `method_missing`

- b. External Iterator

## CS342 Fall 2015 Midterm 2

3. (5 points) You are on a software team that is building a web service that has several different Movie Information APIs (Cast, Financials, Plot) that all interact with one another. Three other members of the team are busy building the classes for each API in various languages, but you have been asked to define the interface that will allow the clients to use any of the APIs in ruby to produce an information page for a movie. Give your design by defining the class(es) and methods you would use to dynamically build the information page based on only the options they want.

## CS342 Fall 2015 Midterm 2

4. (5 points) A design team is using an old precompiled software library for a suite of testing software that originally ran on the text only MS-DOS environment. The software runs 3 tests, `stressTest()`, `tempTest()`, `cacheTest()`. They must use the existing library without making any changes, but need to add GUI software layer to allow the software to run in a Windows GUI. Give your design by defining the class(es) and methods you would use to solve this problem.

5. (5 points) A candy shop has developed an online delivery system that allows them to send candy through your computer. However, the candy delivery takes up to 15 minutes, and they must not oversell their supplies. Give your design by defining the class(es) and methods you would use to fill the candy orders and send it to the customer, ensuring only one order is filled at a time.

## CS342 Fall 2015 Midterm 2

6. (4 points) Given the classes below, give the driver code for two different ways of making the two classes below work with one another during runtime.

```
class StuffMaker
  def makeStuff
    ...
  end
end
```

```
class StuffUser
  def doStuff
    sm = StuffMaker.new
    sm.makeSomeStuff()
  end
end
```

**Option 1)**

**Option 2)**