

CS 151-03: Object-Oriented Design

Fall Semester 2013

Department of Computer Science
San Jose State University
Prof. Ron Mak

Assignment #1

Assigned: Tuesday, September 3
Due: Thursday, September 12 at 11:59 pm
Team assignment, 100 points max

The Rock-Paper-Scissors game

Suppose you're going to write an application where the computer plays the Rock-Paper-Scissors game against a human player. (NOTE: You are not supposed to actually write the application for this assignment.)

In the Rock-Paper-Scissors game, a match consists of one or more throws. The number of throws per match should be an input parameter. (Example: 20 throws per match)

For each throw:

- The human player inputs a choice (rock, paper, or scissors).
- The computer responds with its choice. Although the computer has recorded the human's choice, to keep the game fair, the computer's choice must not depend on knowledge of the human's choice.
 - For example, the computer's choice can be randomly generated.
- The computer keeps track of who won (or whether it's a tie).
- Instead of entering a choice, the human can ask for
 - the current score
 - a help messageand then input a choice.

At the end of a match, the computer displays:

- the number of throws won by the human
- the number of throws won by the computer
- the number of ties
- the winner of the match (or whether it's a tie)

Helpful link: <http://en.wikipedia.org/wiki/Rock-paper-scissors>

For a hint of what's to come in later assignments:

<http://www.nytimes.com/interactive/science/rock-paper-scissors.html>

Functional specification

Write the first draft of a Functional Specification for this application. The Functional Specification must contain in this order:

- the problem statement
- objectives of the application
- functional requirements (at least 6)
- nonfunctional requirements (at least 3)
- a use case diagram containing at least 3 use cases
- use case descriptions (at least 3)

Use case form: <http://www.cs.sjsu.edu/~mak/CS151/assignments/1/UseCaseForm.doc>

What to turn in

Each team should create a Microsoft Word document or a PDF containing a Functional Specification. Email to ron.mak@sjsu.edu. Do not email any executable files because some mailers will reject the entire message.

Your subject line must say **CS 151 Assignment #1** followed by your **team name**. CC all the team members so that I can do a "Reply all" when I send out your score.

This is a team assignment. Each member of the team will receive the same score.