

Sample MPP Test 1

Name: _____ StudentId: _____

For the following problem description do the following:

- 1) (20pts) Create a UML class diagram. Show the major class attributes and methods, and label your associations. Make a note of any design assumptions you make.
- 2) (10pts) There is a method in our client code (your Main method) called **showResponsibilities(Employee)** which will print out the responsibilities for each employee. It will list the features that a developer or tester is responsible for, list the sprints a scrum master is responsible for, and list the projects a project manager is responsible for. Show a pseudo code snippet to call this method polymorphically in your Main class. In your class diagram show your design in the necessary classes to polymorphically implement **showResponsibilities()**. Show a one line pseudo code snippet for each of the classes that implement **showResponsibilities()**. Label any classes or methods that are abstract in your class diagram.
- 3) Do not write the code for all your classes. You will only show 1 pseudo code snippet for the client and a pseudo code snippet for each of the other classes need for **showResponsibilities()**.

Problem Description

Recall our Project Management Tracking System from Lab 1 and Lab 2. We modify the problem description to be the following:

1. We have a project with a list of all the features for our product.
2. Each project is made up of one or more *Sprints*. Sprints contain a subset of the project features and have a due date.
3. Project managers create and manage projects
4. Scrum Masters create and manage sprints
5. Each feature in a sprint is assigned to a developer and a tester
6. Each developer will estimate the effort required to complete his/her feature
7. Each tester will estimate the testing effort required to complete his/her feature
8. An employee might be a scrum master, project manager, developer or tester.
9. An employee can switch between being these roles or may be multiple roles at one time.
10. We keep track of the name, ssn, emailAddr, and employeeID for each employee.