

# Object Oriented Design

## Exam

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# Section Contents

## 1 Exam Structure

- Course Structure
- Exam Format
- Question Topics
- What to Bring?
- Questions
- Answers

- The grades for this module are split between the final exam and the assignment
- Breakdown
  - Exam 50%
  - Assignment 50%
- This means that doing well the course usually requires a good result in the exam

- The exam will contain 5 questions, each worth 20%
- Question 1 is 4 short questions from any topic discussed in the course
- Questions 2 - 5 are each on a single topic
- You must answer all questions

- The topics for the larger questions are based on different sections of the course
- This includes
  - Software Development Processes/Methodologies
  - Requirements Analysis
  - Analysis (use case realisation + class diagram)
  - Design (use case realisation + class diagram)
  - Implementation
  - Design Patterns and Principles

- You should expect to be asked to draw diagrams
- Bring a ruler as well as pencils, an eraser and pens
  - So you can draw straight lines and more easily fix small mistakes
- Make your diagrams as clear as possible, if necessary start again on another page

- Some questions will require a detailed explanation.
- Simply copying down notes you remember will not get you a very good grade
- Questions may ask you to compare and contrast different ideas from the module
- Most questions will require you to explain your answers in detail



- This is a third year subject and it is expected that you will have a very good understanding of the material
- This understanding should be shown in your answers to the questions
- I will be grading the answers quite strictly
- To improve your grade, try to structure your answers well and use good grammar

# Section Contents

- 2 Example Questions
  - Short Questions
  - Long Questions
  - Example Long (part a)
  - Answer Book Blank
  - Solution
  - Long Questions (part b)

- Explain in your own words the Single Responsibility Principle. What is the desired result of this principle?  
(5 %)
- What is cohesion? Why is it important that a class be cohesive?  
(5 %)

- You can expect to see a number of different types of questions here
- Examples include questions that will ask you to;
  - produce use case documents from a specification
  - analyse some documents and produce a sequence diagram
  - analyse a system description and produce a class diagram (domain model) to represent the data and their relationships (and code)
  - given a sequence diagram and class diagram, modify the diagrams for the design phase of the project
  - explain an idea from class related to ???

Given the following use case description and domain model, complete a sequence diagram realising the basic course of events.

### Create Question

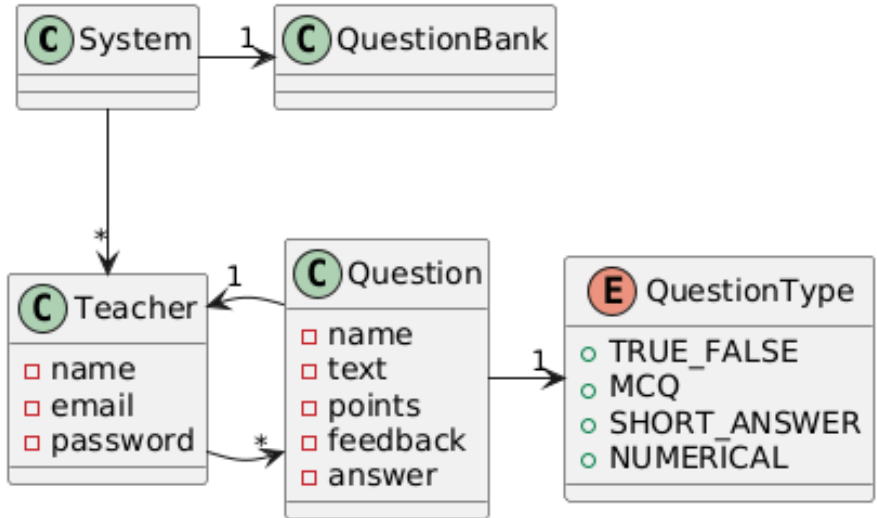
**Description:** This use case allows the user to create a new question for the quiz system.

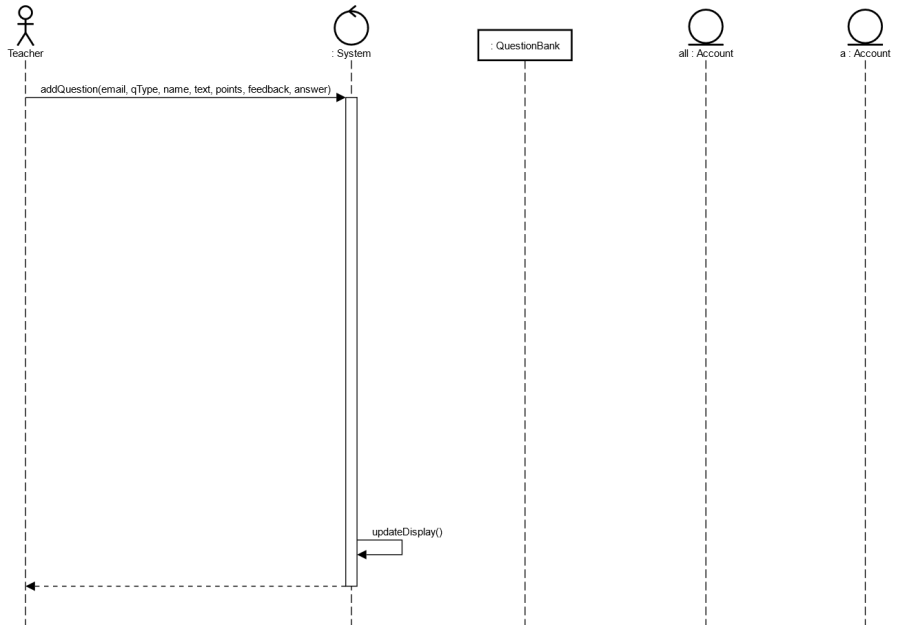
**Actors:** Teacher

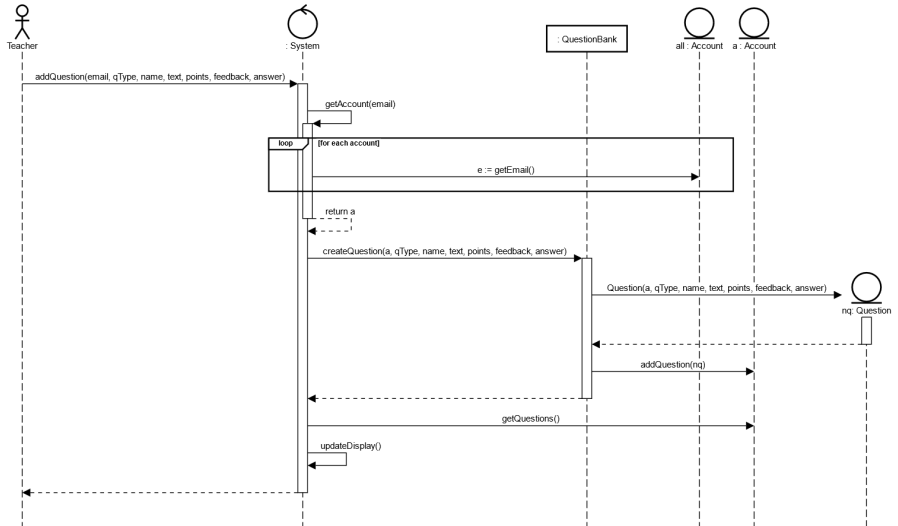
**Preconditions:** The teacher is logged into the system and has navigated to the view questions page of the system, which only shows questions that are associated with the teacher.

### Basic course of events

- 1 The user selects the new question functionality
- 2 The system displays a dialog asking which type of question they would like to create (True/False, MCQ, Short Answer, Numerical...)
- 3 The user selects the correct type of question
- 4 The system displays a form asking the user to enter their email, the question name, text, points, feedback and answer
- 5 The user enters the requested details and clicks submit
- 6 The system returns to the list of questions with the new question added





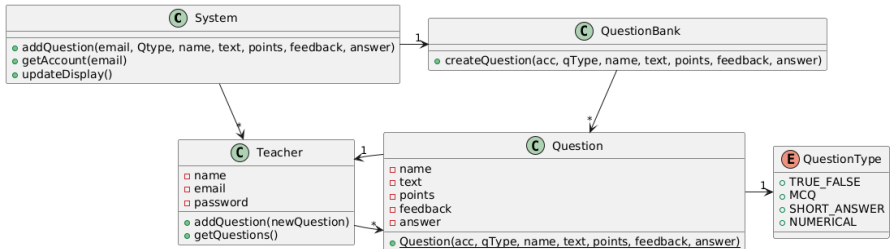




## Question

Create a class diagram showing the updates made as a result of completing this use case realisation.

## Solution



# Section Contents

- 3 Exam Technique
  - Time Management
  - Neatness

- One for the most important skills in doing well in exams is time keeping
- The exam is 120 minutes in length
- To answer all of the questions fully you should use all/most of this time
- The amount of points for each question should give you an idea of how much time you should spend answering a question

- Managing your time is essential for properly completing the exam
- A general strategy for completing the exam is to break your time into three parts
  - 10 minutes for reading the paper
  - 100 minutes for answering the questions
  - 10 minutes for reviewing your answers and checking for mistakes

- You do not have to have perfect writing in your exam, but if I **cannot read** your answer I cannot give you a good grade
- Write as neatly as you can, the easier it is to read the easier it is to grade
- I suggest you bring pens and pencils and something that you can use to draw straight lines

Study well and Good  
Luck!