

have received a handful of emails requesting a sample exam. I am not going to provide a sample exam because I've been through the ins and outs of the various questions (Q1--Q4). Please see the preparation guide.

Just to remind you, please look at the recordings starting from Week 9 (or maybe earlier) which is when I covered the Pizza/PizzaMenu example, an example of Q4. In later weeks I went through guidelines around Q2 (getSignAndParity) and Q3 (the loop/array question). For Q1 I went through the idea of desk checking to trace code, because Q1 with its 5 MCQs will mostly benefit from such desk checking.

The exam will repeat the themes around Q2, Q3, Q4. Invent some questions and I will also present some examples in the exam revision lecture this week (19th October, at 10:30am in 80.4.6).

Just to be a little more helpful, here are some samples for Q2, Q3, Q4.

Q2.

(a) Write a method to return the average of three numbers, representing rainfall figures in millimetres.

(b) Show how this method may be used to calculate and print the quarterly averages of rainfall given the array rainfall, which has 12 elements representing rainfall for each of the 12 months in the year.

Q3.

(a) Write a fragment of code to calculate the average of all even numbers in an array of 100 integer numbers.

(b) If only the first N elements of the array are populated, how would your solution be altered?

(c) Write the code to validate N, before populating the array with N numbers. N should be greater than zero and less than some 20.

Q4.

(a) Write a class Patient to represent patients in a hospital. For a patient the properties name, age (in whole number years) and ward need to be recorded. Include in your definition a constructor which receives values for these instance variables.

(c) Write suitable getters for all instance variables.

(d) Write a class Hospital with suitable instance variables to represent a collection of patients in a ward. The other instance variables will be the name of the hospital, its location, and the maximum number of patients it may accommodate at any point in time, and the number of patients currently accommodated.

(e) Write a constructor for the Hospital and show via one statement how an instance of the Hospital may be created, with a capacity of 500 patients.

(f) Write a method to add a new patient to the hospital

(g) write a method to list all patients currently accommodated in the hospital.

We will discuss these in the exam revision session. I would encourage you to develop solutions in this forum and share and discuss these with your peers.