Queen Mary University of London

Exit2020P2.pdf

Once you fill in your name and number below, the correct file name to save your file as will appear above.

ECS401: PROCEDURAL PROGRAMMING

Autumn 2020 EXIT TEST

PART 2 (PRACTICAL) OF 2

Student Number from ID card:_____

(eg 201234567)

Student Surname:_____

Student Other names:_____

WRITE YOUR FULL NAME IN BLOCK CAPITALS

Time allowed for part 1 and 2 combined: 90 minutes + 45 mins submission time.

YOU MUST COMPLETE THE TEST ON YOUR OWN, WITHOUT CONSULTING OTHERS

Answer ALL of the (multi-part) questions in the two booklets.
*There are **two** questions made of several parts on this test paper.*
The paper is worth 25 marks, though the marks are given only for feedback and to help you plan timing and amount to write on this test.
The mark for the first (theory) question (1a, 1b) are combined and converted to a distinct A-F grade. The mark for the final (programming) question part (2) is also converted to a distinct A-F grade. Each counts separately towards your coursework grade.

Answer the questions in accordance with the instructions given with each question.

READ THE INSTRUCTIONS OVERLEAF

For examiner's use only

Q2: _____

Question 2	
Mark /10	**Grade**
9-10	A+
7-8	A
6	B
5	C
4	D
2-3	F
0-1	FM

INSTRUCTIONS

SAVE YOUR WORK REGULARLY.

You must upload TWO PDF documents containing your answers to QM+ containing your answers: ONE FOR THE THEORY PAPER, ONE FOR THE PRACTICAL PAPER.

Follow the instructions on the submission pages of QM+ to submit your work. You can also use the backup method to submit a second backup copy of the file by a second method - see the instructions on the submission page.

Before submission, rename your answer booklet pdf files to include your surname and student identifier at the start of the file name, ie the file named should have the form:

SurnameStudentIdExit2020P1.pdf
SurnameStudentIdExit2020P2.pdf

For example, mine would be

Curzon201234567Exit2020P1.pdf
Curzon201234567Exit2020P2.pdf

You can refer to textbooks, notes and online materials to facilitate your working, but normal referencing and plagiarism rules apply and you must cite any sources used. Note on this paper there are NO marks for writing or code copied from other sources or written by someone else: everything must be your own work. If you show your work to others and they copy it you will get 0 too.

Your answers MUST be typed into the pdf forms. You MUST NOT cut and paste images - images will NOT be marked. Lines of text that exceed the number of lines provided in each box will not be marked.

Calculators are permitted in this test. You may also compile and run code. However, note that the focus on marking dry run questions is on the explanations/justifications not the values printed. The focus on marking code is on whether the code is logically correct, together with the explanations of it, rather than on minor details of syntax that might be picked up by a compiler.

Put your effort in to making sure code is logically correct and explaining how it works in detail. READ ANY CODE YOU WRITE CAREFULLY TO CHECK IT IS LOGICALLY CORRECT.

WORD LIMITS

The word limits for each question part are advisory maximums, linked to the number of marks.You can easily gain full marks writing within this limit. We are looking for well-explained but appropriately concise answers.You will NOT get more marks by writing significantly more than the limit.

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Question 2 [10 marks]

All answers must be typed in to the given spaces: NO inserted images will be marked. There are NO marks for work cut and pasted from other sources (or using the same wording as someone else). If you paste more lines in to a box than the lines there, the extra will not be marked.

i) **Write** a Java procedural program that helps with a research study as follows. A researcher is collecting data about allergy attacks. A group of people have been recruited to record data about their allergies.

At the end of the day on any day that they have an allergy attack they must record three things using the program:

- the number of times they took medication that day (minimum 0, maximum 10 times)
- the main cause of the attacks that day (chosen from cats, dust and nuts), and
- give the day a quality of life rating: a number from 1 (awful) to 5 (good) based on how it affected their life that day.

They give data until they have recorded taking medication 60 times. So if they took medication 3 times on the first day and 2 on the second, that would count as 5 times towards the 60 total.

Once all the readings have been collected, the program should print all the readings out, one per line separated by tabs eg

```
9	nuts	1
4	dust	4
1	cats	3
0	cats	5
	etc
```

The program MUST be in procedural programming style to gain marks. It must use **loops, methods and arrays**. For high marks the program should also correctly implement the above, and be well-structured using methods that take arguments and return results, with at least one clearly defined abstract data type. It should have very good style in all other ways (such as indentation, spacing, naming, etc).

ii)

Explain briefly in your own words (separately from the code and in the box provided at the end) how **ONE** important method of your program answering part i) works. This should be in addition to brief comments before each method stating what that method does.

[10 marks]

Type your answer in the boxes on the following pages.

Answer to question 2i

Answer to question 2i continued:

Answer to question 2i continued:

Answer to question 2i continued:

Answer to question 2i continued:

Answer to question 2i continued:

Answer to question 2i continued:

Answer to question 2i continued:

Answer to question 2i continued:

Answer to question 2i continued:

Answer to question 2ii WRITE YOUR EXPLANATION HERE [word limit: 300 words]

MARK _____ /10

YOU MUST ALSO COMPLETE BOOKLET 1