Dashboard   My courses   MP1R-20CS2105R 2021-22 Odd Semester   General
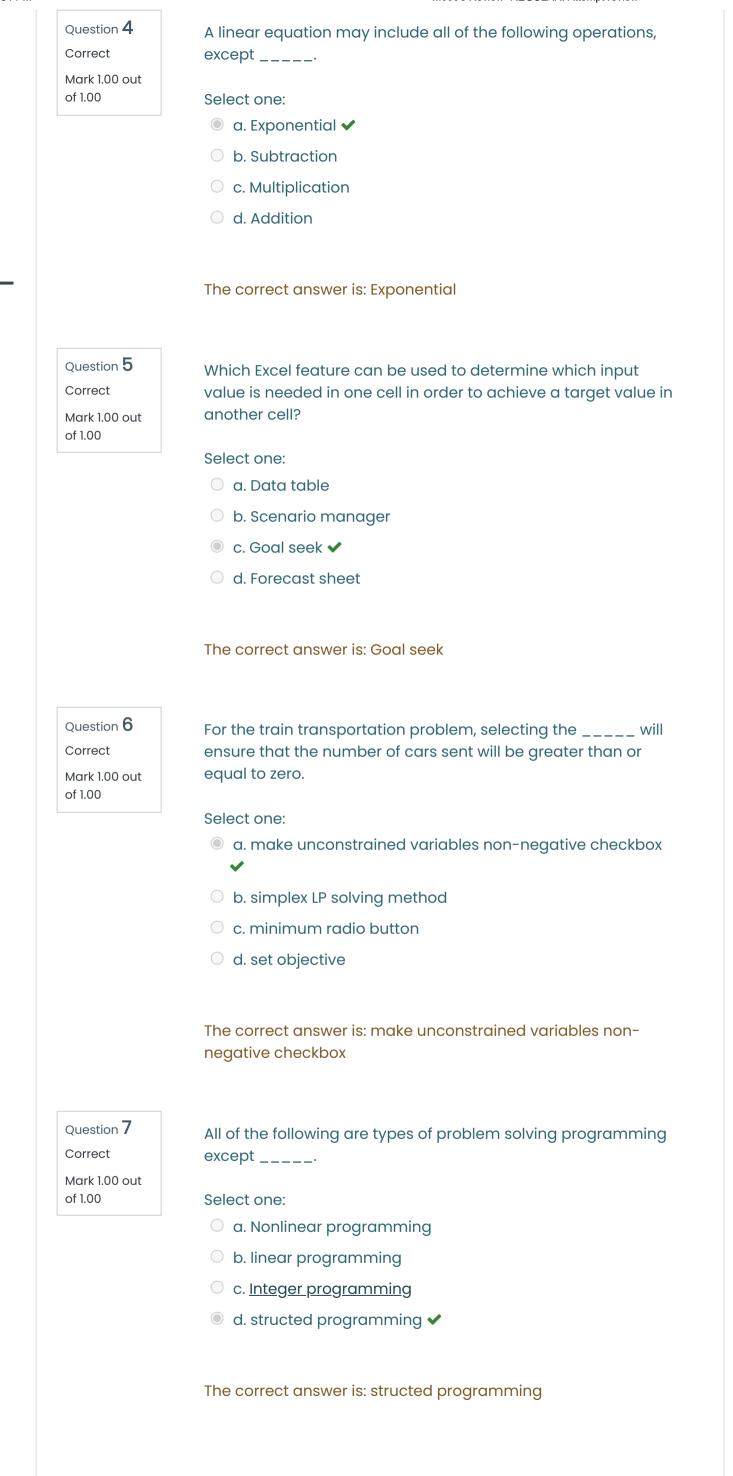
Mooc's Review- REGULAR

MATHEMATICAL PROGRAMMING - 1 2021-22 Odd Semester

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Started on	Friday, 12 November 2021, 7:08 PM
State	Finished
Completed on	Friday, 12 November 2021, 7:54 PM
Time taken	45 mins 37 secs
Marks	40.00/40.00
Grade	**10.00** out of 10.00 (**100%**)

Question 1
Correct
Mark 1.00 out of 1.00

To represent the relative positions of locations on a map, you can use a(n) _____.

Select one:
○ a. bubble chart
○ b. treemap
○ c. map chart
◉ d. XY Scatter chart ✔

The correct answer is: XY Scatter chart

Question 2
Correct
Mark 1.00 out of 1.00

Should you use synthetic data in your benchmarks?

Select one:
○ a. Yes,it's faster to generate
○ b. Yes,it's easier to generate
○ c. Only when it's hard to get real data
◉ d. No,it will differ from real data ✔

The correct answer is: No,it will differ from real data

Question 3
Correct
Mark 1.00 out of 1.00

Why are floating points inaccurate?

Select one:
○ a. Floating points are,in fact,accurate
○ b. It's a hardware bug
◉ c. We traded accuracy for speed ✔
○ d. It was a design error

The correct answer is: We traded accuracy for speed

Question 4

Correct

Mark 1.00 out of 1.00

A linear equation may include all of the following operations, except _____.

Select one:

○ a. Exponential ✔

○ b. Subtraction

○ c. Multiplication

○ d. Addition

The correct answer is: Exponential

Question 5

Correct

Mark 1.00 out of 1.00

Which Excel feature can be used to determine which input value is needed in one cell in order to achieve a target value in another cell?

Select one:

○ a. Data table

○ b. Scenario manager

◉ c. Goal seek ✔

○ d. Forecast sheet

The correct answer is: Goal seek

Question 6

Correct

Mark 1.00 out of 1.00

For the train transportation problem, selecting the _____ will ensure that the number of cars sent will be greater than or equal to zero.

Select one:

◉ a. make unconstrained variables non-negative checkbox ✔

○ b. simplex LP solving method

○ c. minimum radio button

○ d. set objective

The correct answer is: make unconstrained variables non-negative checkbox

Question 7

Correct

Mark 1.00 out of 1.00

All of the following are types of problem solving programming except _____.

Select one:

○ a. Nonlinear programming

○ b. linear programming

○ c. Integer programming

◉ d. structed programming ✔

The correct answer is: structed programming

Question 8

Correct

Mark 1.00 out of 1.00

What does "Big O" describe?

Select one:

○ a. The median case run time of an algorithm

○ b. The average case run time of an algorithm

◉ c. The worst case run time of an alogirthm ✔

○ d. The best case run time of an algorithms

The correct answer is: The worst case run time of an alogirthm

Question 9

Correct

Mark 1.00 out of 1.00

What will make pypy unsuitable for you?

Select one:

◉ a. It won't work with a 3rd party module ✔

○ b. It is not maintained

○ c. It will have bugs

○ d. It will run slower than CPython

The correct answer is: It won't work with a 3rd party module

Question 10

Correct

Mark 1.00 out of 1.00

To discover how many stores are assigned to a specific depot, create a formula using the _ _ _ _ _ function.

Select one:

○ a. COUNTA

◉ b. COUNTIF ✔

○ c. COUNT

○ d. IF

The correct answer is: COUNTIF

Question 11

Correct

Mark 1.00 out of 1.00

How is the "timeit" command better than "time"?

Select one:

○ a. It provides units of measurement

○ b. It is easier to use

◉ c. It averages results and ignores warm up ✔

○ d. We can use it from IPython

The correct answer is: It averages results and ignores warm up

Question 12

Correct

Mark 1.00 out of 1.00

Should you use AsyncIO on IO bound tasks?

Select one:

○ a. No,AsyncIO is for CPU bound tasks

⦿ b. Yes,but only if you have async drivers ✔

○ c. No,AsyncIO is not mature enough

○ d. Yes,but only in Python 3

The correct answer is: Yes,but only if you have async drivers

Question 13

Correct

Mark 1.00 out of 1.00

In what stages of the process should we think about performance?

Select one:

○ a. Code review

⦿ b. All of these answers ✔

○ c. Testing

○ d. Design

The correct answer is: All of these answers

Question 14

Correct

Mark 1.00 out of 1.00

The level of risk associated with an investment as compared to the overall market is the investment's _____.

Select one:

⦿ a. Beta ✔

○ b. Delta

○ c. Sigma

○ d. Alpha

The correct answer is: Beta

Question 15

Correct

Mark 1.00 out of 1.00

Before using Solver, organize the worksheet so cells with _____ are placed in the same row or column.

Select one:

⦿ a. similar properties ✔

○ b. similar amounts

○ c. neither of these answers

The correct answer is: similar properties

Question 16

Correct

Mark 1.00 out of 1.00

If we have a program that runs several queries on a database, should we use threads?

Select one:

○ a. Yes,threads are good for CPU bound operations

○ b. No,threads are bad for IO bound operations

○ c. No,threads are bad for CPU bound operations

◉ d. Yes,threads are great for IO bound operations ✔

The correct answer is: Yes,threads are great for IO bound operations

Question 17

Correct

Mark 1.00 out of 1.00

Why are built-in functions better than hand written ones?

Select one:

○ a. They consume less memory

○ b. They are written by Python developers

◉ c. They are usually faster and you write less code ✔

○ d. They are more flexible

The correct answer is: They are usually faster and you write less code

Question 18

Correct

Mark 1.00 out of 1.00

Which of the following is not a report option in solver?

Select one:

○ a. sensitivity

○ b. limits

◉ c. original values ✔

○ d. answer

The correct answer is: original values

Question 19

Correct

Mark 1.00 out of 1.00

What is required to build C extensions?

Select one:

◉ a. Python header files and a C compiler ✔

○ b. a C compiler and Linux

○ c. a C compiler

○ d. Python header files

The correct answer is: Python header files and a C compiler

Question 20

Correct

Mark 1.00 out of 1.00

When using Goal Seek, you can find a target result by varying at most _____ inputs.

Select one:

○ a. 3

○ b. 2

○ c. 4

◉ d. 1 ✔

The correct answer is: 1

Question 21

Correct

Mark 1.00 out of 1.00

What is line profiler granularity?

Select one:

○ a. Function

◉ b. Line of code ✔

○ c. Instruction

○ d. Class

The correct answer is: Line of code

Question 22

Correct

Mark 1.00 out of 1.00

What can you use in Python 2 to profile memory?

Select one:

○ a. mprof

◉ b. memory_profiler ✔

○ c. IPython

○ d. tracemalloc

The correct answer is: memory_profiler

Question 23

Correct

Mark 1.00 out of 1.00

Can caching work on any function?

Select one:

◉ a. only on functions that don't side effects ✔

○ b. only on functions with small number of arguments

○ c. not on recursive functions

○ d. not on built-in functions

The correct answer is: only on functions that don't side effects

Question 24

Correct

Mark 1.00 out of 1.00

When will we prefer joblib over lru_cache?

Select one:

○ a. when we deal with large number

○ b. when we have fast disk

◉ c. when we'd like to save cached results between runs ✔

○ d. when we work with strings

The correct answer is: when we'd like to save cached results between runs

Question 25

Correct

Mark 1.00 out of 1.00

Are processes good for tasks that communicate a lot?

Select one:

○ a. Yes,we can pass arguments on the disk

○ b. Yes,we can share objects

○ c. No,processes are bad for CPU bound tasks

◉ d. No,the cost of IPC will be too much ✔

The correct answer is: No,the cost of IPC will be too much

Question 26

Correct

Mark 1.00 out of 1.00

Python will allocate new memory every time you append to a list.

Select one:

○ a. TRUE

◉ b. FALSE ✔

The correct answer is: FALSE

Question 27

Correct

Mark 1.00 out of 1.00

What are "cache friendly" algorithms?

Select one:

○ a. Algorithms that store everything in memory

◉ b. Algorithms that divide the data to small parts that fits inside a CPU cache line ✔

○ c. Algorithms that cache computation results

○ d. Algorithms that purge the CPU cache before working

The correct answer is: Algorithms that divide the data to small parts that fits inside a CPU cache line

Question 28

Correct

Mark 1.00 out of 1.00

What data should you use in your benchmarks?

Select one:

- a. hand calculated data
- b. synthetic data
- c. randomly generated data
- d. real world data ✔

The correct answer is: real world data

Question 29

Correct

Mark 1.00 out of 1.00

Which of the following is not an option on the auto fill menu?

Select one:

- a. paste cells ✔
- b. fill without formatting
- c. copy cells
- d. fill formatting only

The correct answer is: paste cells

Question 30

Correct

Mark 1.00 out of 1.00

Why is important to think about performance during design?

Select one:

- a. We can skip performance at the design step and think about it while coding
- b. It will affect system design and save you time later in the process ✔
- c. It will make design meetings more enjoyable
- d. It will flush out all the performance problems

The correct answer is: It will affect system design and save you time later in the process

Question 31

Correct

Mark 1.00 out of 1.00

___ allow you to change values in ___ cells.

Select one:

- a. Scenarios; formula
- b. Scenarios; multiple ✔
- c. What-Ifs; multiple

The correct answer is: Scenarios; multiple

Question 32

Correct

Mark 1.00 out of 1.00

Why should you have measurable performance goals?

Select one:

○ a. You can do without optimization if your code already matches the goals.

○ b. If will affect the design of the code

◉ c. all of these answers ✔

○ d. If forces stakeholders to come up with goals.

The correct answer is: all of these answers

Question 33

Correct

Mark 1.00 out of 1.00

To find the best expected return from a portfolio with an overall beta of 1.3, set the objective cell's function to _ _ _ _ _.

Select one:

○ a. MIN

○ b. Specific Value

◉ c. MAX ✔

○ d. AVERAGE

The correct answer is: MAX

Question 34

Correct

Mark 1.00 out of 1.00

What is one of the downsides of using Cython?

Select one:

○ a. You can't write comments

○ b. You can't use it in Python 2

○ c. You need to know C

◉ d. You need an extra compilation step ✔

The correct answer is: You need an extra compilation step

Question 35

Correct

Mark 1.00 out of 1.00

Will bistect work on any list?

Select one:

◉ a. No,only on sorted lists ✔

○ b. No,only on numeric

○ c. Yes,but in some cases it can be slow

○ d. Yes

The correct answer is: No,only on sorted lists

Question 36

Correct

Mark 1.00 out of 1.00

The total of all probabilities associated with end nodes on a major branch of a decision tree should add up to _ _ _ _ _.

Select one:

    a. 0

    b. -1

    c. -100

    d. 1 ✔

The correct answer is: 1

Question 37

Correct

Mark 1.00 out of 1.00

The _ let(s) you store different values that can be applied to your worksheet.

Select one:

    a. data validation tools

    b. forecast sheet

    c. goal seek button

    d. scenario manager ✔

The correct answer is: scenario manager

Question 38

Correct

Mark 1.00 out of 1.00

Is LRU the best cache eviction policy?

Select one:

    a. No,it can have bugs

    b. No,it depends on your data ✔

    c. No,random is better

    d. No,MRU is better

The correct answer is: No,it depends on your data

Question 39

Correct

Mark 1.00 out of 1.00

When setting an objective for the solver, which of the following is not an option in the to field?

Select one:

    a. zero ✔

    b. max

    c. min

    d. value of

The correct answer is: zero

Question **40**

Correct

Mark 1.00 out of 1.00

What is the runtime (Big O) of heap insertion?

Select one:

○ a. n/2

◉ b. log(n) ✔

○ c. n*log(n)

○ d. n

The correct answer is: log(n)

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