Q&A Session for Programming Languages Final Exam Topics

Session Number: 1202712256
Date: 2020-12-11
Starting time: 14:24

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ANON — 14:21
Q: Please explain the quiz question relating to identifying whether a multidimensional array is in row or column major order.
Priority: N/A
        Konstantin Kuzmin — 14:22
        A: ays can also be stored in column-major or row-major layout. In column-major layout, the elements from the first (leftmost) dimension or index are contiguous in memory. In row-major, the elements from the last (rightmost) dimension or index are contiguous.
        Konstantin Kuzmin — 14:22
        A: N-dimensional arrays can also be stored in column-major or row-major layout. In column-major layout, the elements from the first (leftmost) dimension or index are contiguous in memory.
        Konstantin Kuzmin — 14:22
        A: In row-major, the elements from the last (rightmost) dimension or index are contiguous.
        Konstantin Kuzmin — 14:23
        A: From: https://www.mathworks.com/help/coder/ug/what-are-column-major-and-row-major-representation-1.html
        Ana L. Milanova — 14:27
        A: Thanks Konstaintin! My plan is to go over quizzes, so will go over this one too.
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ANON — 14:20
Q: is
struct {
  int a;
  char b;
}

structurally equivalent to

struct {
  char a;
  int b;
}
Priority: N/A
        Ana L. Milanova — 14:28
        A: No. Order of elements matters.
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ANON — 14:25
Q: Will there be office hours next week?
Priority: N/A
        Steven Haussmann — 14:25
        A: We'
        Steven Haussmann — 14:26
        A: whoops :). We'll be having them on Monday, at least.
        Ana L. Milanova — 14:37
        A: Yes. We will finalize the schedule and post on the forum.
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ANON — 14:36
Q: What does pool.shutdown do?
Priority: N/A
        Konstantin Kuzmin — 14:47
        A: An ExecutorService can be shut down, which will cause it to
reject new tasks. The shutdown() method will allow previously
submitted tasks to execute before terminating.
        Konstantin Kuzmin — 14:47
        A: Upon termination, an executor has no tasks actively
executing, no tasks awaiting execution, and no new tasks can be
submitted.
        Konstantin Kuzmin — 14:47
        A: For future reference, this was taken from: https://
docs.oracle.com/javase/7/docs/api/java/util/concurrent/
ExecutorService.html
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ANON — 15:01
Q: Is quiz 9 extra credit? And I can hear Prof. Milanova
Priority: N/A
        Konstantin Kuzmin — 15:02
        A: Yes.
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ANON — 15:02
Q: Professor Kuzmin, you just called it an "extra credit quiz" — have
these been extra credit all semester? I thought they were actually
part of our grade
Priority: N/A
        Konstantin Kuzmin — 15:03
        A: No, only Quiz 9 is extra credit.
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ANON — 15:02
Q: Will lecture 17 be on the exam?
Priority: N/A
        Konstantin Kuzmin — 15:05
        A: No. Proof: https://www.cs.rpi.edu/~milanova/csci4430/
Lec17_QA.pdf

Konstantin Kuzmin — 15:07
    A: Q: "Even if lecture 17 is not on Exam 2, could it appear on the Final exam?" A: "No, it won't."

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ANON — 15:03
Q: Is Haskell the only language that'll be on the exam, or should we expect prolog coding and scheme coding questions as well?
Priority: N/A
    Ana L. Milanova — 16:39
    A: No. You can expect Haskell, Prolog, and Scheme coding questions. You can expect questions on other langauges we have discussed as well, e.g., Python, Java, the Algol family, Pascal-like languages etc.

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ANON — 15:03
Q: what were some of the main topics we should focus on for programming language semantics?
Priority: N/A
    Ana L. Milanova — 16:39
    A: Attribute grammars: attributes, rules, S-attributed grammars.

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ANON — 15:03
Q: Will Quiz 9 be added onto our total quiz grade then?
Priority: N/A
    Konstantin Kuzmin — 15:07
    A: Yes.

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ANON — 15:06
Q: Can you repeat what 3 languages are the comparative programming language going to be in.
Priority: N/A
    Ana L. Milanova — 16:39
    A: Haskell, Scheme, and Prolog.

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ANON — 15:06
Q: can we have some more examples of the types of prolog questions that we would get?
Priority: N/A
    Ana L. Milanova — 16:41
    A: You can go back to Exam 1 and the Exam 1 problem sets in addition to the final problem sets.

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ANON — 15:06

Q: Can you make an announcement right now about extra time on the final using the course evaluation? A PSA via video, of you would.
Priority: N/A
      Konstantin Kuzmin — 15:13
      A: Sure, I will announce it by voice whenever there is a pause in our current discussion.

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ANON — 15:06
Q: In the syllabus it states that the lowest quiz grade is dropped ?
Priority: N/A
      Konstantin Kuzmin — 15:09
      A: Correct. We changed it to extra credit because it is actually more advantageous for the students than what is specified in the syllabus. If you have any concerns regarding this, please let us know.

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ANON — 15:10
Q: Will the prolog for the final exam be similar to exam 1 or not as in-depth as exam 1?
Priority: N/A
      Ana L. Milanova — 16:42
      A: You may expect questions along the line of Exam 1 quesitons.

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ANON — 15:15
Q: Unless otherwise stated, are we expected to perform alpha conversion every time there's a substituion?
Priority: N/A
      Ana L. Milanova — 16:42
      A: Yes, rule is as in Exam 2. Do not do aggressive renaming, do renaming only if necessary.

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ANON — 15:16
Q: Is the hw6 haskell syntax all considered "basic"
Priority: N/A
      Ana L. Milanova — 16:43
      A: By "basic" I mean the syntax that we covered in the two Haskell lectures we had.

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ANON — 15:17
Q: what percentage of course evaluations are we currently at?
Priority: N/A
      Konstantin Kuzmin — 15:18
      A: 58%

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ANON — 15:23
Q: oh, what's the status of the required graduate level paper? did i
miss something on this?
Priority: N/A
        Konstantin Kuzmin — 15:24
        A: Contrary to waht syllabus says, there is no difference
between the graduate and undergraduate versions of this course
anymore.
        Konstantin Kuzmin — 15:24
        A: So, if you are a grad student, there is no extra work that
you need to do. Also, there will be a single grading scale.
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ANON — 15:28
Q: for the exam, what's the latest you'll accept an extended time
form?
Priority: N/A
        Ana L. Milanova — 16:45
        A: If you have sent us the form already, then you don't have
to resend. If you have not, send it to us by Monday eveneing. We have
to make sure we have configured Submitty properly.
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ANON — 15:28
Q: Quick quiz clarification Q: does "the end" mean after the
awaitTermination() was called, or when the program terminates? I can
understand if this cant be answered
Priority: N/A
        Ana L. Milanova — 16:49
        A: We meant when the program terminated. (I can see now how
that may change the answer, and we'll allow for that additional answer
too.)
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ANON — 15:29
Q: when are the answers for the practice problems coming out?
Priority: N/A
        Ana L. Milanova — 16:49
        A: Most likely around Sunday evening/Monday morning.
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ANON — 15:29
Q: could you post the answers with explanations to quiz 9 after
4:20pm?
Priority: N/A
        Ana L. Milanova — 16:50
        A: Yes, will do, after my office hours.
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ANON — 15:30
Q: I completely understand if it's not possible, but is there any chance we'll know the grades of homework 7 before this final, so we can calculate what we need to either obtain a certain letter grade or pass?
Priority: N/A
    Ana L. Milanova — 16:52
    A: We'll do our best, but most likely, we won't be able to grade and make grades available before the final.
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ANON — 15:30
Q: Are there answers to the first two exams?
Priority: N/A
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ANON — 15:35
Q: Quizzes were very helpful, thank you
Priority: N/A
    Ana L. Milanova — 16:52
    A: Thank you!
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ANON — 15:41
Q: How much will the exam be graded out of?
Priority: N/A
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ANON — 15:42
Q: meaning, what will be the total available points?
Priority: N/A
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ANON — 15:43
Q: Should we expect a crazy binding question where we're asked about deep dynamic binding with reference model for variables?
Priority: N/A
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ANON — 15:44
Q: For deep dynamic binding with reference model for vars, if you modify a reference to a variable that is in the reference environment, would the closure's version of that variable be modified?
Priority: N/A
    Ana L. Milanova — 17:02
    A: This can happen if we had value model too. It may be the case that the variable was modified between the point where we pass the closure and the point when the closure is called.
    Ana L. Milanova — 17:03
    A: The closure is a link to a frame, not a list of bindings

the way I had been showing to make things simpler.
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ANON — 15:45
Q: Is the closure binding ignored if x is already defined locally?
Priority: N/A
        Steven Haussmann — 15:50
        A: Yes, this is only relevant if we need to search for a
definition
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ANON — 15:50
Q: could you repeat what is meant by "type signatures are written in
curried form"? thanks .
Priority: N/A
        Steven Haussmann — 15:51
        A: Signatures for multi-argument functions are written one
argument at a time —— like int —> int —> bool
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ANON — 15:54
Q: Is there an estimate for the amount of questions we can expect?
Priority: N/A
        Ana L. Milanova — 17:04
        A: The exam should be about 50% longer than Exam 1/Exam 2.
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ANON — 15:57
Q: So if you re-assign a closure variable, then it will change in the
frame that passed in the function?
Priority: N/A
        Ana L. Milanova — 17:04
        A: Yes.
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ANON — 15:58
Q: Follow up: Deep dynamic binding with value model. If we did "x = 5"
then created a closure "z = function that uses x" then do "x = 6" when
z is evaluated use 5 or 6? What if this was reference model?
Priority: N/A
        Ana L. Milanova — 17:05
        A: If we modify x = 6 _after_ the call to the function that
takes the closure as argument, then we won't see x = 6.
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ANON — 15:59
Q: What do you mean by the closure binding is ignored if x is already
defined locally? So if procedure A had an x defined, it would ignore
the closure from main?
Priority: N/A

Steven Haussmann — 16:01
        A: Yes, because the closure is only relevant if we can't find
a variable in our current scope.
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ANON — 15:59
Q: Please don't make that an exam question T-T
Priority: N/A
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ANON — 16:02
Q: Coul these Extra Practice Problems also be posted?
Priority: N/A
        Konstantin Kuzmin — 16:09
        A: https://www.cs.rpi.edu/~milanova/csci4430/Lecture26.pptx
        Konstantin Kuzmin — 16:10
        A: Extra slides will be added after the lecture.
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ANON — 16:03
Q: can we go over the first question in quiz 8 (row/col-major in 3-
dimensions)?
Priority: N/A
        Ana L. Milanova — 17:07
        A: We did! Prof. Kuzmin posted an answers too, earlier in the
Q&A.
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ANON — 16:04
Q: for slide 22, would it be possible that the answer is (d)?
Priority: N/A
        Ana L. Milanova — 17:07
        A: No, because we are looking for the "best answer". The "best
answer" is (a). I agree the question is a bit ambiguous which is why
it did not show on the quiz.
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ANON — 16:04
Q: Why would $T \le S \le A$ be incorrect? Is it impossible for $T = S$ and
$S = A$?
Priority: N/A
        Steven Haussmann — 16:26
        A: It's impossible to exactly decide the type safeness of
every single program.
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ANON — 16:12
Q: I cannot hear Professor Milanova but it might just be me
Priority: N/A
        Konstantin Kuzmin — 16:14

A: Audio seems to be OK. Did it get better for you or you still can't hear her?

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ANON — 16:12
Q: yeah I was confused here because I thought maybe there was a third thing called "depth-major order" or something
Priority: N/A
        Steven Haussmann — 16:19
        A: I suppose that would be for 3D arrays, where consecutive Z indices are contiguous

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ANON — 16:14
Q: I left and rejoined the meeting, so everything is good now
Priority: N/A
        Konstantin Kuzmin — 16:14
        A: Great!

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ANON — 16:17
Q: can we go over an example of call by value-result or call by name?
Priority: N/A
        Steven Haussmann — 16:19
        A: Call by name acts like you replaced the arguments with the names passed in. Value-result just reevalutes at the end

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ANON — 16:18
Q: for this slide (22), couldn't it also be choice (d)?
Priority: N/A

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ANON — 16:24
Q: Ok, i got it now. Thank you!
Priority: N/A

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ANON — 16:27
Q: @Everyone The Final Exam, as you know, is 25% so it would be really great and really the least we can do to get the 25 Extra Minutes to do well as a Class.
Priority: N/A

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ANON — 16:28
Q: Thank you Prof. Kuzmin, Prof. Milanova, and Steven for answering questions every lecture!
Priority: N/A
        Ana L. Milanova — 17:08

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        A: Thank you for your questions!
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ANON — 16:28
Q: Thank you for the semester!
Priority: N/A
        Ana L. Milanova — 17:24
        A: Thank you!
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ANON — 16:28
Q: Thanks so much!!!
Priority: N/A
        Ana L. Milanova — 17:27
        A: Thank you!
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ANON — 16:30
Q: Thank you Professor Milanova, Professor Kuzmin, TA Steven, +
Everyone. Hopefully the Final goes well and you all have a Nice Winter
Break + Holidays after next week.
Priority: N/A
        Ana L. Milanova — 17:27
        A: Thank you!
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ANON — 16:48
Q: Thank you for a wonderful course!!
Priority: N/A
        Ana L. Milanova — 17:27
        A: Thank you!
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