Q&A Session for Programming Languages Final Exam Topics

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

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: 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. 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
Ana L. Milanova - 14:27
A: Thanks Konstantin! My plan is to go over quizzes, so will go over this one too.

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.
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.

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

Q: Is quiz 9 extra credit? And I can hear Prof. Milanova  
Priority: N/A  
Konstantin Kuzmin - 15:02  
A: Yes.

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.

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."

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 languages we have discussed as well, e.g., Python, Java, the Algol family, Pascal-like languages etc.

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

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

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.

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.
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.

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.

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 questions.

ANON – 15:15
Q: Unless otherwise stated, are we expected to perform alpha conversion every time there's a substitution?
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.

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.

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

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 evening. We have to make sure we have configured Submitty properly.

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.)

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.

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.
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

A: We'll do our best, but most likely, we won't be able to grade and make grades available before the final.

Q: Are there answers to the first two exams?
Priority: N/A

A: Thank you!

Q: Quizzes were very helpful, thank you
Priority: N/A

Q: How much will the exam be graded out of?
Priority: N/A

Q: meaning, what will be the total available points?
Priority: N/A

Q: Should we expect a crazy binding question where we're asked about deep dynamic binding with reference model for variables?
Priority: N/A

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

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.

A: The closure is a link to a frame, not a list of bindings.
the way I had been showing to make things simpler.

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

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

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.

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.

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 $x = 6$.

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
A: Yes, because the closure is only relevant if we can't find a variable in our current scope.

Q: Please don't make that an exam question T-T
Priority: N/A

Q: Could these Extra Practice Problems also be posted?
Priority: N/A

A: https://www.cs.rpi.edu/~milanova/csci4430/Lecture26.pptx

A: Extra slides will be added after the lecture.

Q: Can we go over the first question in quiz 8 (row/col-major in 3-dimensions)?
Priority: N/A

A: We did! Prof. Kuzmin posted an answers too, earlier in the Q&A.

Q: For slide 22, would it be possible that the answer is (d)?
Priority: N/A

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.

Q: Why would T <= S <= A be incorrect? Is it impossible for T = S and S = A?
Priority: N/A

A: It's impossible to exactly decide the type safeness of every single program.

Q: I cannot hear Professor Milanova but it might just be me
Priority: N/A
A: Audio seems to be OK. Did it get better for you or you still can't hear her?

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

ANON – 16:14
Q: I left and rejoined the meeting, so everything is good now
Priority: N/A

Konstantin Kuzmin – 16:14
A: Great!

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 reevaluates at the end

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

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

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

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
A: Thank you for your questions!

ANON - 16:28
Q: Thank you for the semester!
Priority: N/A
Ana L. Milanova - 17:24
A: Thank you!

ANON - 16:28
Q: Thanks so much!!!
Priority: N/A
Ana L. Milanova - 17:27
A: Thank you!

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!

ANON - 16:48
Q: Thank you for a wonderful course!!
Priority: N/A
Ana L. Milanova - 17:27
A: Thank you!