CS 51G Interim Course Questionnaire

The purpose of this questionnaire is to help the instructor improve this course for future semesters. As a result, we are interested in descriptions of problems and suggestions for improvements that can help improve this course even in future offerings. As much as possible, please try to separate comments on the language design, on the web-based language implementation (including error messages), and the instructional materials. Do not write your name on this questionnaire.

1. Student background: Did you have any computer programming experience before taking this course. If so, please describe your background and level of expertise.

   No.

2. What did you see as the strengths and weaknesses of the language Grace? Are there any aspects you found particularly well or poorly designed? Did the language support your understanding of the key ideas of object-oriented programming? Do you have any suggestions for changes in the language design?

   It seemed simple, which was helpful. For the most part, commands made logical sense, as they did what it seemed like they would. It was overall pretty supportive of learning, though this comes with the fact that I have never seen any other programming languages.

3. What did you think of the web implementation of the language? What are the strengths and weaknesses of this implementation? What could be changed to make it a better environment for novices learning to program?

Many of the error messages are unhelpful, and often times have it more confusing. Errors will refer to things outside the programs we are writing, which makes than tough to debug. Obviously, it builds very slow. Aside from that, the user interface was well designed. Have to right-click on save was bothersome but not a real problem.

4. What did you think of the instructional materials (text, lecture notes, sample code, and other materials on the web) and lectures for this class? What materials need to be improved or added? Where there topics that needed to be explained more clearly or that could have been covered more quickly?

I think it would be helpful to actually write more code somehow during the week. There were the programming problems in the book, but often they did not have answers. Otherwise, it was helpful.

5. Any other thoughts about Grace and this class so far?

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1. Student background: Did you have any computer programming experience before taking this course. If so, please describe your background and level of expertise.

   I dabbled in basic programming a couple of times, but did not learn enough to feel like I knew much about CS.

2. What did you see as the strengths and weaknesses of the language Grace? Are there any aspects you found particularly well or poorly designed? Did the language support your understanding of the key ideas of object-oriented programming? Do you have any suggestions for changes in the language design?

   Strengths:
   - more logical user interface
   - less noise
   - labs were probably easier for us.

   weaknesses:
   - It's annoying that $(x @ y)$ is a point in space but for all other uses of x & y as dimensions you use (x, y).
   - Build times are annoying.

   overall the language supported my learning in object-oriented programming.

3. What did you think of the web implementation of the language? What are the strengths and weaknesses of this implementation? What could be changed to make it a better environment for novices learning to program?

I liked the web implementation. It made me feel like our programs were stored on a cloud rather than on the machine itself.

4. What did you think of the instructional materials (text, lecture notes, sample code, and other materials on the web) and lectures for this class? What materials need to be improved or added? Where there topics that needed to be explained more clearly or that could have been covered more quickly?

I would have liked the text to be rid of Java "bugs," so only grace has ever featured in examples and practice problems.

5. Any other thoughts about Grace and this class so far?

I am unsure how easy the transition to java will be but I feel like I know Grace really well!

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1. Student background: Did you have any computer programming experience before taking this course. If so, please describe your background and level of expertise.

   I had absolutely zero computer programming experience.

2. What did you see as the strengths and weaknesses of the language Grace? Are there any aspects you found particularly well or poorly designed? Did the language support your understanding of the key ideas of object-oriented programming? Do you have any suggestions for changes in the language design?

   Strengths
   - The syntax was very straight-forward and logical
   - Easy to learn

   Weakness
   - The error messages were unclear
   - Seemed very picky about exact wording, indentation, etc

   Changes
   - There should be a way to create folders for programs

3. What did you think of the web implementation of the language? What are the strengths and weaknesses of this implementation? What could be changed to make it a better environment for novices learning to program?

Strengths

- automatically saves program in browser
- hard to

weaknesses

- Saving is a little chunky
- no way to organize programs in browser
- Hard to would notraHs

4. What did you think of the instructional materials (text, lecture notes, sample code, and other materials on the web) and lectures for this class? What materials need to be improved or added? Where there topics that needed to be explained more clearly or that could have been covered more quickly?

Materials were good. The grace text book still has Java answers to the homework, though.

5. Any other thoughts about Grace and this class so far?

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1. Student background: Did you have any computer programming experience before taking this course. If so, please describe your background and level of expertise.

   My only experience was a little bit of self-taught Python and some Mathematica.

2. What did you see as the strengths and weaknesses of the language Grace? Are there any aspects you found particularly well or poorly designed? Did the language support your understanding of the key ideas of object-oriented programming? Do you have any suggestions for changes in the language design?

   In a lot of intangible ways Grace is a very "clean" and accessible language. I liked the library for objectdraw and the treatment of types ultimately made things easier. The main improvement I could suggest — which is very important — is to improve the error messages.

3. What did you think of the web implementation of the language? What are the strengths and weaknesses of this implementation? What could be changed to make it a better environment for novices learning to program?

The web implementation was very ~~aesthetic~~ graceful (and aesthetic!)

Not much advice. It was already clear to use and I wouldn't change much.

4. What did you think of the instructional materials (text, lecture notes, sample code, and other materials on the web) and lectures for this class? What materials need to be improved or added? Where there topics that needed to be explained more clearly or that could have been covered more quickly?

Improve the chapter on lists. Its written in a creative, thoughtful way but be more direct with things at the beginning.

5. Any other thoughts about Grace and this class so far?

was worried it might not be good, but its been great!

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1. Student background: Did you have any computer programming experience before taking this course. If so, please describe your background and level of expertise.

   I took a one semester online course in intro to programming in Python last year.

2. What did you see as the strengths and weaknesses of the language Grace? Are there any aspects you found particularly well or poorly designed? Did the language support your understanding of the key ideas of object-oriented programming? Do you have any suggestions for changes in the language design?

   I thought objectDraw and the ease of creating and manipulating built-in objects was a big strength. The language seems to have all the built-in types that we needed for programs.

3. What did you think of the web implementation of the language? What are the strengths and weaknesses of this implementation? What could be changed to make it a better environment for novices learning to program?

The layout is clean and easy to understand, but sometimes the error messages are vague and make debugging difficult. This is especially true of internal compiler errors.

4. What did you think of the instructional materials (text, lecture notes, sample code, and other materials on the web) and lectures for this class? What materials need to be improved or added? Where there topics that needed to be explained more clearly or that could have been covered more quickly?

I thought the documentation was incredibly helpful in looking up built-in types. The sample code was also helpful, but needs more comments so it can be easily understood when looking at it.

5. Any other thoughts about Grace and this class so far?

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1. Student background: Did you have any computer programming experience before taking this course. If so, please describe your background and level of expertise.

    no background in programming

2. What did you see as the strengths and weaknesses of the language Grace? Are there any aspects you found particularly well or poorly designed? Did the language support your understanding of the key ideas of object-oriented programming? Do you have any suggestions for changes in the language design?

    → the syntax seems a lot simpler than other languages, it is fairly easy to write

    — I think that Grace has allowed me to learn the logic of programming without all of the complexities of writing the code.

3. What did you think of the web implementation of the language? What are the strengths and weaknesses of this implementation? What could be changed to make it a better environment for novices learning to program?

→ The slow compiler was a little annoying, but not actually a problem

→ having it online was nice because it allowed easy access to the compiler without having to download a lot of program, material

→ The error messages weren't very helpful

4. What did you think of the instructional materials (text, lecture notes, sample code, and other materials on the web) and lectures for this class? What materials need to be improved or added? Where there topics that needed to be explained more clearly or that could have been covered more quickly?

→ I liked that the textbook was online (and free), because it made it easy to search for specific examples

→ Sometimes it was difficult to find specific sample code, so it would have been nice to have them all in one easy to find list

5. Any other thoughts about Grace and this class so far?

→ I've enjoyed learning how to program in Grace, it seems much easier to learn than Java. Assuming I'm able to learn Java easily, I would recommend that beginners start with this class.

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1. Student background: Did you have any computer programming experience before taking this course. If so, please describe your background and level of expertise.

   No :(

2. What did you see as the strengths and weaknesses of the language Grace? Are there any aspects you found particularly well or poorly designed? Did the language support your understanding of the key ideas of object-oriented programming? Do you have any suggestions for changes in the language design?

   It is hard for me to compare with other languages or really judge this one since I have no precedent. I would say that it would be helpful to try & improve the error messages if at all possible. For the most part everything seemed straight forward.

3. What did you think of the web implementation of the language? What are the strengths and weaknesses of this implementation? What could be changed to make it a better environment for novices learning to program?

It was great being able to access Grace from any computer. However, an obvious drawback is that you need internet to run the program, so working on a plane for example would be hard.

4. What did you think of the instructional materials (text, lecture notes, sample code, and other materials on the web) and lectures for this class? What materials need to be improved or added? Where there topics that needed to be explained more clearly or that could have been covered more quickly?

I would say that the book should obviously be completed but otherwise good. I struggled with lists the most but I thought adequate time was spent on it. We may have spent too much time on recursion as we only use it in one lab & I have heard from peers in higher up classes that you don't use/or understand recursion until then anyways

5. Any other thoughts about Grace and this class so far?

Teaching your own language must be exciting for you & it showed which was great. Loved the small class size

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1. Student background: Did you have any computer programming experience before taking this course. If so, please describe your background and level of expertise.

   No 0 experience

2. What did you see as the strengths and weaknesses of the language Grace? Are there any aspects you found particularly well or poorly designed? Did the language support your understanding of the key ideas of object-oriented programming? Do you have any suggestions for changes in the language design?

   a weakness would be the error messages I think, often not very helpful. Other than that though it's hard for me to compare cause I have 0 experience else where.

3. What did you think of the web implementation of the language? What are the strengths and weaknesses of this implementation? What could be changed to make it a better environment for novices learning to program?

It was nice having access to it anywhere, but it was frustrating when it took a very long time to compile, which maybe was web related, but for a new language it probably made sense since it was updated routinely. Also the manner of saving files was minor but inconvenient

4. What did you think of the instructional materials (text, lecture notes, sample code, and other materials on the web) and lectures for this class? What materials need to be improved or added? Where there topics that needed to be explained more clearly or that could have been covered more quickly?

I think one area that could've been extended was the use of parameters, definitely did not understand these very well at all. Some annotated sample code might be nice to for more difficult topics like recursion where the code shows where it loops back visually.

5. Any other thoughts about Grace and this class so far?

I have really enjoyed class so far well have to see how I like grace compared to other cause right now I have nothing to compare it to.

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1. Student background: Did you have any computer programming experience before taking this course. If so, please describe your background and level of expertise.

   Yes. I spent a summer doing research that required me to program in Python.

2. What did you see as the strengths and weaknesses of the language Grace? Are there any aspects you found particularly well or poorly designed? Did the language support your understanding of the key ideas of object-oriented programming? Do you have any suggestions for changes in the language design?

   I felt some of the simplifications in terms of syntax were unnecessary. By this I mean things like having If statement be followed by 'then', whereas in python + other languages it would just be if (condition): , while I see the motivation behind making the syntax more like plain English, I felt like this was unnecessary. Another thing that was really frustrating was that there is no good IDE like eclipse. Even being able to write it in a text editor + run from from the command line would have been nice; having to write + edit code on a website was frustrating at times. However, I do feel like the language did support my understanding of the key ideas of object-oriented programming.

3. What did you think of the web implementation of the language? What are the strengths and weaknesses of this implementation? What could be changed to make it a better environment for novices learning to program?

4. What did you think of the instructional materials (text, lecture notes, sample code, and other materials on the web) and lectures for this class? What materials need to be improved or added? Where there topics that needed to be explained more clearly or that could have been covered more quickly?

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2. What did you see as the strengths and weaknesses of the language Grace? Are there any aspects you found particularly well or poorly designed? Did the language support your understanding of the key ideas of object-oriented programming? Do you have any suggestions for changes in the language design?

   It was simple to use, but the errors could be better.

3. What did you think of the web implementation of the language? What are the strengths and weaknesses of this implementation? What could be changed to make it a better environment for novices learning to program?

I thought it was good since it doesn't require an installation to work with and it can be worked on any computer

4. What did you think of the instructional materials (text, lecture notes, sample code, and other materials on the web) and lectures for this class? What materials need to be improved or added? Where there topics that needed to be explained more clearly or that could have been covered more quickly?

Overall I thought the instructional materials were helpful, the textbook just needs to be completed.

5. Any other thoughts about Grace and this class so far?

Make the compiler faster

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1. Student background: Did you have any computer programming experience before taking this course. If so, please describe your background and level of expertise.

   None

2. What did you see as the strengths and weaknesses of the language Grace? Are there any aspects you found particularly well or poorly designed? Did the language support your understanding of the key ideas of object-oriented programming? Do you have any suggestions for changes in the language design?

   It was overall a good experience working in Grace. Not much I'd change.

3. What did you think of the web implementation of the language? What are the strengths and weaknesses of this implementation? What could be changed to make it a better environment for novices learning to program?

- increase compile speed

4. What did you think of the instructional materials (text, lecture notes, sample code, and other materials on the web) and lectures for this class? What materials need to be improved or added? Where there topics that needed to be explained more clearly or that could have been covered more quickly?

No complaints here, either

5. Any other thoughts about Grace and this class so far?

Thank you for taking on the monumental task of creating + maintaining Grace for our benefit :)