CS 360 FINAL EXAM (F21) 100PTS

Instructions: This exam is open book, open note, open internet, however you may not work with another person. Each question will require that you do research and provide a well thought out response. The following are the requirements for this exam:

1. You are not allowed to copy information from any of the sources you use, paraphrase, nor work with another student on this exam. These are examples of Academic dishonesty and will be treated as such in accordance with the statement on my syllabus.
2. Each question must have a minimum of 2 sources outside of the texts for this class.
3. All sources, including the textbooks, must be cited. **(10pts)**
    a. When you cite the source, you must use in-text citations with consistent formatting.
    b. The in-text citations can be direct quotes from the resource, in which case the direct quote will need quotation marks.
    c. It can also be a summary of an idea from the resource in your words, which does not require quotes, but does require a reference.
    d. Any time you are using someone else's ideas, direct quote or not, you need to cite the source.
    e. A reference page is also required.

    This is a resource for citation generation: https://www.citefast.com/?s=APA7
4. Technical Aspects: **(15pts)**
    a. Your questions must be answered using the correct form for an essay. Use this **link** (as covered in class) for the proper structure.**(10pts)**
    b. Your answers need to be long enough to provide meaningful information, a maximum of 1.5 pages per question, and a minimum of 3 paragraphs, with the following specifications: **(5pts)**
        i. Your thesis statement must be bolded.
        ii. 1.5 paragraph spaces, 1-inch margins, and times new roman 12 pt (or an equivalent sized font).
        iii. You need to follow conventions (grammar, spelling, etc).
        iv. Your ideas must be presented in an organized fashion.
        v. Consider your audience, purpose, and the circumstances surrounding the writing task.
        vi. You must upload your paper as a .pdf.
        vii. Do not use the question, either directly or paraphrased in your answer.

1. C, JavaScript, and Haskell are in different paradigms and implement numeric data types in very different ways. **Compare and contrast** the numeric data types of those languages. They have very different type systems, and yet they share much in common. This is not about preferences. **Research and support your assertions. (25 pts)**

2. Why do we study programming languages? In class we looked at the paradigms, design, and grammars. Use this lens to detail how the content of this course will affect your future use of languages. **Research and support your assertions. (25 pts)**

3. Prolog and Haskell are both languages that are described as declarative. Start by defining the category of declarative. Next detail the traits of each language that make it part of the paradigm. Finally, looking at the grammars and researching the language design decisions made for each language, find the **similarities and differences**. **Research and support your assertions. (25 pts)**