**Short Answer Questions**

*Answer the following questions. Your answers should be concise; aim for two or three sentences.*

1. What common programming language statement, in your opinion, is most detrimental to readability? Explain why.

From what was presented and shared I would have to say overload operator, considering the changing of the operator which would make it hard to differentiate the difference when being used.

1. Java uses a right brace to mark the end of all compound statements. What are the arguments for and against this design?

As a person who is currently working with java in an android app the syntax can be confusing. An argument for the language would be the right brace is what ends the compound or is the endpoint. While against is due to when you have multiple statements it gets a lot harder to determine the left brace of each.

1. Write three fundamental features of C++ language.
2. Data Abstraction
3. Inheritance
4. Dynamic Memory Allocation
5. Write two language design criteria and explain why they are in direct conflict with each other.

Reliability and Cost of execution

The most common language people compare is java vs C due to the array element when called. Making C execute faster, even if java is more reliable.

1. Consider the following grammar G1 for simple English sentences:

< sentence > < subject > < predicate >

< subject > < noun\_phrase >

< predicate > < verb > < noun\_phrase >

< noun\_phrase > < noun > | < article > < noun >

< noun > jack | jill | ball

< verb > threw | saw

< article > a | the

* 1. Write five syntactically correct sentences generated by G1.

<Sentence> -> <subject> <Predicate>

<Subject> <Predicate>

<Noun\_Phrase> <Predicate>

<Noun> <Predicate>

Jack <Predicate>

Jack <Verb> <Noun\_Phrase>

Jack Threw <Article> <Noun>

Jack Threw A Jill

<Sentence> -> <subject> <Predicate>

<Subject> <Predicate>

<Noun\_Phrase> <Predicate>

<Article> <Noun> <Predicate>

The Ball <Predicate>

The Ball <Verb> <Noun\_Phrase>

The Ball Saw <Noun>

The Ball Saw Jack

<Sentence> -> <subject> <Predicate>

<Subject> <Predicate>

<Noun\_Phrase> <Predicate>

<Article> <Noun> <Predicate>

A Jill <Predicate>

A Jill <Verb> <Noun\_Phrase>

A Jill Threw <Noun>

A Jill Threw Ball

<Sentence> -> <subject> <Predicate>

<Subject> <Predicate>

<Noun\_Phrase> <Predicate>

<Article> <Noun> <Predicate>

The Jack <Predicate>

The Jack <Verb> <Noun\_Phrase>

The Jack Saw <Noun>

The Jack Saw Ball

<Sentence> -> <subject> <Predicate>

<Subject> <Predicate>

<Noun\_Phrase> <Predicate>

<Noun> <Predicate>

Jill <Predicate>

Jill <Verb> <Noun\_Phrase>

Jill Threw <Article> <Noun>

Jill Threw A Jack

* 1. Is the sentence “jack threw a jill” syntactically correct by G1? If so, show a left most derivation or parse tree for it.

<Sentence>

|

<Subject> | <Predicate>

| |

<Noun\_Phrase> < Verb> | <Noun\_Phrase>

| | |

<Noun> Threw <Article> | <Noun>

| | |

Jack A Jill