CMP401 Practice Questions

1. Computers need their own language for various reasons. Discuss any three of these reasons.
2. Discuss object-oriented language stating the major principle behind it.
3. Discuss the reasons behind the idea of studying programming languages.
4. Who would you meet when it is time to define and standardise your programming language? Why does your language needs standardising and when is the appropriate time to go for it?
5. Discuss any two of the commonly used criteria for evaluating a programming language.
6. Describe anyone of the implementation methods. Show diagrams.
7. Using an example, differentiate between the syntax and semantics of a programming language.
8. Given the statement: *int i = 2\*count+17\*(a+b);*, separate the statement into its tokens and lexemes.
9. Given the grammar for a small language as:

<program> → begin <stmt\_list> end

<stmt\_list> → <stmt>

| <stmt> ; <stmt\_list>

<stmt> → <var> = <expression>

<var> → A | B | C

<expression> → <var> + <var>

| <var> – <var>

| <var>

Describe every components of this grammar.

1. Generate the grammar for A = B \* ( A + C ) and provide its parse tree.
2. Show that the statement: A = B + C \* A is an ambiguous grammar.