1. \*\*\*Ignore number 1 on separate sheet\*\*\* The difference between an intrinsic attribute and a synthesized attribute is that synthesized attribute is an attribute of the nonterminal on the left-hand side of a production. Synthesized attributes represent information that is being passed up a parse tree. Synthesized attributes are attributes that gets its values from the attributes attached to the children of its non-terminal. An inherited attribute is an attribute that gets its values from the attributes attached to the parent (or siblings) of its non-terminal. An attribute of a nonterminal on the right-hand side of a production is called an inherited attribute.
2. On separate sheet.
3. On separate sheet.
4. On separate sheet.
5. On separate sheet.
6. On separate sheet.
7. Imperative uses a sequence of statements to determine how to reach a certain goal while functional language was explicitly created to support a pure functional approach. Functional languages = python or scala while imperative languages = java or c++
8. On separate sheet. A lambda expression is a function definition not bound by an identifier.
9. On separate sheet.
10. Data types that are not defined in terms of other types are called primitive data types. Nearly all programming languages provide a set of primitive data types; some of the primitive data types are merely a reflection of the hardware- for example most integer types. Others require only a little nonhardware support for their implementation. Primitive data types along with one of more type constructors are used to specify structured data types. Fortran and Python support a complex data type. These languages provide operations for arithmetic on complex values. Primitive data types are those not defined in terms of other data types. Non-primitive data types have poorer performance (slower) and require more memory.