1. **Describe informally the role of selection constructs in imperative programming languages. Give two examples of selection constructs available in modern imperative languages.**

Selection constructs in imperative languages are control structures, used to choose between alternative flows of control. Two well-known examples are the if-then-else construct(a two way selector) and the switch-case construct (a multiple selector)

1. **Briefly describe the main differences between declarative and imperative programming languages.**

Imperative programming is based on change of state, programs contain the instructions which should be followed to obtain the desired result. Imperative programs describe how the computation should be performed. Declarative programming does not have a primitive notion of state. The main declarative paradigms are functional and logic. Declarative programs specify what the computation should achieve. In functional programming, programs are expressions consisting of functions that are evaluated in a context which defines those functions. In logic programming, goals are solved with respect to a set of clauses that describes the problem.

1. Describe the main differences between lexical analysis and syntax analysis

Both are important phases in the implementation of a programming language. The lexical analysis phase occurs first: the lexical analyser (or lexer) takes the source code as input (i.e., a sequence of characters) and produces a sequence of tokens as output or an error message, whereas the syntax analysis phase takes place after the lexical analysis and takes a sequence of tokens as input, producing an AST or an error message as output. See Chapter 1 in the textbook for a description of lexical and syntax analysis.

1. Explain the differences between the role of variables in a logic programming language and variables in an imperative programming language. To illustrate your answer give an example of use of variables in a logic programming language, and an example in an imperative language.