Principles of Programming languages.

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Theory Assignment - 1.

1. What are different programming paradigms?

→ Imperative: The imperative programming paradigm assumes that the computer can maintain through environments of variables & any changes in a computation process.

→ logical : The logical paradigm makes logical assertions about a situation, establishing all known facts.

→ Functional : The functional paradigm views all subprograms as functions in a mathematical sense. i.e. they take in and process arguments to produce a single output.

→ Object-Oriented : The object-oriented paradigm is one in which real world objects are each viewed as seperate entities having their own state which is modified by procedures known as methods.

2. A programming language can be compiled or interpreted. Give relative advantages & disadvantages of compilation & interpretation. Give examples of compiled & interpreted languages.

★ COMPILATION:

☑ Advantages:

→ Self Contained.
→ Efficient
→ Optimized accordingly
→ portability.

☑ Disadvantages:

→ uneditable.
→ hardware dependent.
→ compilation time

★ INTERPRETATION:

☑ Advantages:

→ portability between platforms.
→ no compilation times.
→ easier to edit
→ debugging is very easy.
→ promotes rapid development.

☑ Disadvantages:

→ requires interpretor to be exist on native machine
→ increases program runtime
→ source code will not be protected.

★ EXAMPLES:

☑ Compiled languages: C, C++, Erlang, Haskell, Rust & Go.

☑ Interpreted languages: PHP, Ruby, Python & Javascript.