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## HOMEWORK 1

1. Name three general purpose programming languages that are currently widely used.

Java, C++, Python

2. Name three special purpose programming languages and their domain of applications.

Visual Basic - User interface

SQL - Database

OpenGL - Graphics

3. What are the three important criteria for evaluating programming languages.

Readability    Writability    Reliability

4. Name two important factors that increase the writability of programming languages.

Simplicity (small number of language features)

Process Abstraction (subprograms)

5. Name two Java language features that increase the reliability of Java programs.

Type checking & Exception Handling

6. In Java language, name one language feature that increases readability and one feature that decreases readability.

Increase - Data Abstraction (user defined data)

Decrease - Method or Operator overloading

7. Name two ways in which the choice of programming language affects the software development cost.

Programmer training & Maintenance (having to go back and fixing problems)

8. Name four important programming language paradigms and give one example language for each paradigm.

- Object oriented Programming - (Java)

- Functional Programming - (Lisp)

- Logic Programming - (Prolog)

- Procedural Programming - (Fortran)

9. Name two important features of object oriented languages such as Java that make them suitable for large scale software development.

Uses of classes & objects as well as encapsulation of data and methods

10. Name two important programming language translation methods and give example of one widely used language for each translation method.

compiling - C++

Hybrid compiling - Java

11. Explain why compiled programs usually run faster than interpreted programs.

while compiled programs will compile and then execute, interpreted programs will interpret the code and execute at the same time

12. What is the difference between a compiler and an integrated development environment.

A compiler takes written code and translates it to machine code, an IDE provides a editor, compiler, and a debugger all in one program

13. What is the first high level programming language.

Fortran

14. What is the first programming language that described its syntax formally.

Algol

15. What programming language was mainly used for business applications.

Cobol

16. What programming language was designed with the support of the U.S. government.

Aba

17. What language developed in the 50's is still used in science/engineering applications.

Fortran



18. Name two programming languages that were mainly used for teaching purposes.

Pascal & Basic

19. What is the first object oriented programming language.

Simula

20. Name two object oriented programming languages other than Java.

C++ & Simula

21. Name the companies where C, C++, and Java originated.

- Bell Labs for C & C++
- Sun Microsystems for Java

22. Name the important people who developed C, C++, and Java.

- C was developed by Dennis Ritchie in 1972
- C++ was developed by Bjarne Stroustrup in 1985
- Java was developed by James Gosling in 1994

23. Name two object oriented programming languages that influenced the design of Java.

C++ & SmallTalk

24. When and by whom were the web related languages JavaScript and PHP developed.

- JavaScript was developed by Brendan Eich in 1995
- PHP was developed by Rasmus Lerdorf in 1994

25. When and by whom were the markup languages HTML and XML developed.

- Tim Berners-Lee developed HTML in 1993
- XML was developed by W3C (World wide web consortium) in 1998