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MATRIC NUMBER: 17/SCI01/082

COURSE CODE: CSC302

COURSE TITLE: Survey on programming

ASSIGNMENT

**Question**

1. With examples of different programming languages show how programming languages are organized along the given rubrics:

i. Unstructured, structured, modular, object oriented, aspect oriented, activity oriented and event oriented programming requirement.

ii. Based on domain requirements.

iii. Based on requirements i and ii above.

2. Give brief preview of the evolution of programming languages in a chronological order.

3. Vividly distinguish between modular programming paradigm and object oriented programming paradigm.

ANS:

1.Unstructured Programming language

Examples: JOSS (Johnial Open Shop System)

FOCAL (Formulating on-line Calculations in algebraic Languages)

TELCOM

Assembly Languages

ii. Structured Programming languages

Examples: C, ALGOL, PHP, RUBY, C++, PASCAL

iii. Modular Programming Languages

Examples: COBOL, RPG, FORTRAN, MORPHO, ZONNON, IBM assembler

iv. Object Oriented Programming Language

Examples: Objective –C, C++, PHP, PYTHON, C#, JAVA

v. Activity Oriented Programming Language

Examples: C, HTML

vi. Aspect Oriented Programming Language

Examples: Aspect C, Aspect J

vii. Event Oriented Programming Language

Examples Visual Basic, Visual C++, Java

2. Based on domain requirements

- Scientific domain : FORTRAN

- Business Domain : COBOL

-Artificial intelligence : LISP, PROLOG

- General purpose domain :-PASCAL DELPH, JAVA

- Web Programming Domain :- JAVA, C++, PHP

-Mobile Programming Domain :- JAVA, C++

- Embedded Devices Domain :- JAVA

iii. Based on requirements (i) and (ii)

Programming language requires the developments of tools to enable their tools. Two of these important tools are compilers and interpreters. These tools are an integral part of the programming languages themselves.

Some Languages that do not stand the test of time hold this to their very complex or very slow compilers. Also some computer architectures such as the IA – 64 failed impact owing to the fail that it was difficult to build an efficient compiler for them. Some other architectures such as LISB machines or architectures that were designed to support only a specific language also Short-list as well.

2. Chronological Order of Popular Programming Languages

Below you’ll find a chronological order of some popular and/or important programming languages.

1840 – Analytical Engine Code

The Analytical Engine was a theoretical (i.e., never built) mechanical general-purpose computer, created by British mathematician Charles Babbage. Ada Lovelace came across the idea, and created some code for the Analytical Engine. That’s why she’s considered the first programmer ever.

1943 – ENIAC Coding System

The ENIAC is regarded as the first electronic general-purpose computer. Both the computer and its coding were created by John von Neumann, John Mauchly, and J. Presper Eckert.

1949 – Brief Code (Later Short Code)

Initially proposed by John Mauchly, it was one of the first attempts of an assembly language.

1954 – Fortran

One of the most popular high-level programming languages. It was created by John W. Backus at IBM as an easier alternative to programming in assembly.

1958 – LISP

Created by John McCarthy, one of the pioneers of AI as well.

1959 – COBOL

The name stands for COmmon Business-Oriented Language, as the language was aimed mainly at banks, financial institutions and companies.

1964 – BASIC

Beginner’s All-purpose Symbolic Instruction Code, a family of general-purpose, high-level programming languages whose design philosophy emphasizes ease of use.

1970 – Pascal

Pascal is an influential imperative and procedural programming language, designed in 1968–1969 and published in 1970 by Niklaus Wirth as a small and efficient language intended to encourage good programming practices using structured programming and data structuring.

1972 – Smalltalk

The language that started to inflate the popularity of object-oriented programming.

1972 – C

Created by Dennis Ritchie and Ken Thompson at the AT&T Bell Labs. It’s simplicity and efficiency made it one of the most popular languages around the world.

1972 – SQL

Created at IBM, it became the standard for dealing with databases.

1983 – C++

Originally named “C With Classes”, it brought object-orientation to C (which is technically a subset of C++).

1987 – Perl

Perl is a family of high-level, general-purpose, interpreted, dynamic programming languages.

1991 – Python

A high-level language that emphasizes code readability, and its syntax allows programmers to express concepts in fewer lines of code than would be possible in languages such as C.

1995 – Java

Java is the most popular object-oriented programming language around, and it was created to have as few implementation dependencies as possible. It’s widely used in commercial and business applications.

3. An object-oriented program usually contains different types of objects, each corresponding to a particular kind of complex data to manage, or perhaps to a real-world object or concept such as a bank account, a hockey player, or a bulldozer.

Modular programming (also called "top-down design" and "stepwise refinement") is a software design technique that emphasizes separating the functionality of a program into independent, interchangeable modules, such that each contains everything necessary to execute only one aspect of the desired functionality.