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Course Title : Compiler

Course Code : CSI-411

"Mid - Term Exam"

1

Ans to the Q No 1

(a)

Types of compiler :

Compilers are divided into three parts -

(1) Single Pass Compilers. (2) Two Pass Compilers.

(3) Multipass Compilers. The "compiler" was word first used in the early 1950's by Canace Murray Hopper. Steps for Language processing system are : Preprocessor, Interpreter, Assembler, Linker / Loader.

Phases of compiler :

The phases of compiler design are lexical analysis, syntax analysis, semantic analysis,

intermediate code generation, code optimisation, and code generation.

Ans to the Q No 11

(b)

Disadvantages of Compiler:

1. Compilation time.
2. Error detection.
3. Portability.
4. Execution speed.
5. Lack of flexibility.
6. Resource consumption.

Advantages of Compiler:

1. Improved performance.
2. Portability
3. Increased security.

④ Debugging support.

⑤ No dependencies.

Ans to the Q No 1

(c)

Compiler design helps full implementation of High Level Programming Languages, supports optimization for computer architecture parallelism. A compiler is a program that translates a high level language (for example, C, C++, and Java) into a low-level language (object program on machine program)

Top-down parsing: Top-down parsing in computer science is a parsing strategy where one first looks at the highest level of the parse tree and works down the parse tree by using the rewriting rules of a formal grammar. LL parsers are a type of parser that uses a top-down parsing strategy.

Bottom-up parsing: Bottom parsers work by "shifting" symbols onto a stack until the top of stack contains a right-hand side of a production. The stack is then "reduced" by replacing

the production's right hand side by its left-hand side.

Ans to the Q No 2

(a)

Natural language processing is an interdisciplinary subfield of computer science and linguistics. It is primarily concerned with giving computers the ability to support and manipulate human language.

Ans to the Q No 2

(b)

A cross compiler is a compiler capable of creating executable code for a platform other than the one on which the compiler is running. For example, a compiler that runs on a PC but generates code that runs on an Android smartphone is a cross compiler.

Ans to the Q. No. 2

(a)

A source-to-source translator, source-to-source compiler (S2S compiler), transcompiler, or transpiler is a type of translator that takes the source code of a program written in a programming language as its input and produces an equivalent source code in the same or a different programming language.