**Glossary**

Research and write a concise definition for the following terms as they apply to software development:

|  |
| --- |
| Algorithm: An algorithm is a procedure or formula for solving a problem, based on conducting a sequence or specified actions. A computer program can be viewed as an elaborate algorithm. |
| Array: An array is a data structure that contains a group of elements. Typically these elements are all of the same data types, such as an integer or string. |
| ASCII: ASCII (American Standard Code for Information Interchange) is the most common format for text files in computers and on the internet. In an ASCII file each alphabetic, numeric, or special character is represented with a 1- 7-bit binary number (A string of seven 0s or 1s) |
| Binary Selection: Binary (or “base 2”) a numeric system that only uses two digit - 0 and 1. Computers operate in binary meaning they store data and perform calculation using only zeroes and ones. |
| CASE Tool: CASE (Computer aided software engineering) Is the use of computer assisted method to organize and control the development of software, especially on large, complex projects involving many software components and people. |
| Cu: A control unit handles a;; processors control signals. It directs all input and output flow, fetches code for instructions from microprograms and directs other units and models by providing control and timing signals. |
| Compile: When programmers create software programs, they first write the program in source code which is written in a specific programming language, such as C or java. |
| Control Structure: A control structure is a block of programming that analyzes variables and chooses a direction in which to go based on given parameters. |
| Data Dictionary: A data dictionary is a collection of descriptions of that data objects or items in a data model for the benefit of programmers and other who need to refer to them. |
| Data Type: A data type, in programming is a classification that specifies which type of value a variable has and what type of mathematical, relational or logical operations can be applied to it without causing an error. |
| Desk Checking: a desk check is an information non-computerized or manual process for verifying the programming and logic of an algorithm before the program is launched. |
| EULA: An End User License Agreement (EULA) is a legal contract between a software application author or publisher and the user of that application. The EULA, often referred to as the “software license” is similar to a rental agreement; the user agrees to pay for the privilege of using the software, and promises the software author or publisher to comply with all restrictions stated in the EULA. |
| Flag: In programming, a flag is a predefined bit or bit sequences that holds a binary value. Typically, a program ises a flag to remember something or to leave a sing for another program. |

|  |
| --- |
| Flowchart: A flow chart is a formalized graphic presentation of a logic sequence, work or manufacturing process, organization chart or similar formalized structure. |
| GUI: Stands for “Graphical User Interface”. It is a user interface that includes graphical elements such as windows, icons and buttons. |
| Intrinsic Documentation: A form of documentation that exist in normal code because it needs to be there to make the codes readable. It in values use of logical variable names, identifying and capitalization or reserved words. |
| IPO Chart: An IOP chart shows the input data, the process that the data will undergo and the end result. |
| Logic Error: A logic error is a mistake in a programs source code that results in an incorrect or unexpected behavior. |
| Malware: Malware is any program or file that is harmful to a computer user. These malicious program can perform a variety of functions, including stealing, encrypting or deleting sensitive data. |
| Metalanguage: From a programming langue perspective a metalanguage is a languages used to make statements regarding statements made in another language known as an object language. |
| Parameters: In information technology, a parameter is an item of information. Such as a number, or a selected option. |
| Runtime Error: Runtime error refers to an error that takes place while executing a program. |
| Subroutine: In computer programming, routine and subroutine are general and nearly synonymous terms for any sequence of code that is intended to be called and used repeatedly during the executable of a program. |
| Structure Chart: A structure chart is a chart which shows the breakdown of a system to its lowest manageable levels. |
| Stub: A method stub or simply stub in software development is a piece of code used to stand in for some other programming functionality. |
| Syntax Error: in computing, an error in a program due to a code that does not conform to order expected by the programming language. |
| Top-down Design: A top-down design is the decomposition of a system into smaller parts in order to comprehend its compositional sub-system. |

Social and Ethical Issues (6 Marks}

1. Inclusive software should take into account the different users who will likely use the product; as software developers, we have a responsibility to ensure software is accessible to all regardless of their culture, economics, gender or disability. Outline features of software that improve inclusivity in each of these areas.
2. Both open source and public domain software are free to use, share and modify. What are the key features that separate these different classifications.

* Open source licenses are legal licenses to use the code under the conditions specified in the license. In contrast, Public domain means you are giving your right to the copyright of the code, and it can be used in any way.

1. Explain how copyright laws help protect the intellectual property rights of software developers.

* Intellectual property rights are at the foundation of the software industry. The term refers to a range of intangible rights of ownership in an asset such as a software program. Each intellectual property “right” is itself an asset, a slice of the overall ownership pie. The law provides different methods for protecting these rights of ownership based on their type.

Copyright protects the form in which an idea is expressed. In the case of software, copyright law would protect the source and object code, as well as certain unique original elements of the user interface.

As discussed in last month’s issue, the owner of a copyrighted software program has certain exclusive rights (with some exceptions): the right to copy the software, create derivative or modified versions of it, and distribute copies to the public by license, sale or otherwise. Anyone exercising any of these exclusive rights without permission of the copyright owner is an infringer and subject to liability for damages or statutory fines.

Copyright law also protects against indirect copying, such as unauthorized translation of the code into a different programming language. Which is Generally, the duration of a copyright is the author’s life plus fifty years.