Software Engineering

Assignment to check basic knowledge about Software Engineering

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Q1] What is,

a.) Software:

1.) Software is a set of programs / codes ; which is designed to perform a well-defined function.

2.) A program is a sequence of instructions written to solve a particular problem.

3.) It comprises of set of programs, procedures and routines associated with the operation of a computer system.

4.) There are various software domains viz: System, Application, Scientific, embedded, web applications, AI / ML, open-source software, etc.

b.) Engineering:

1.) Engineering is the use of science and math to design or make things.

2.) It is the use of scientific principles to design and build machines, structures, buildings, and many more thing.

3.) It is a way to engineer human life through research and innovation in science and technology.

c.) Engineer:

1.) Engineer is a person who is trained in the aspects of engineering based on the branch of study.

2.) He/she can be the one who works on something to improve the output with minimum inputs / requirements.

3.) Someone who solves issues / problems and makes human life easy.

e.) Explain in brief - Software process -

1.) Software is the set of instructions in the form of programs to govern ~~software~~ computer system and to process hardware components. To produce software some set of activities are used. This set is called software process.

2.) Components of software: Program, documentation, operating procedures.

3.) There are 4 basic key process activities:

A.) Software specifications: Detailed description of a software system to be developed with its functional and non-fuctional components.

B.) Software development: Designing, programming, documenting, testing and bug fixing is done.

C.) Software Validation: Evaluation software product is done to ensure that the software meets business requirements as well as end user needs.

D.) Software Evolution: Developing software initially, then timely updating it for various reasons.

8.) Discuss Nature of the software: The nature of software has changed a bt over the years.

1.) System software: Infrastructure software come under this category like compilers, OS, drivers, etc.

2.) Real time software: These are used to monitor, control and analyze real world events

3.) Embedded software: Its placed in ROM of the product and control various functions of the product.

4.) Business software: To process business app^n. It could be payroll, file monitoring, DBMS, etc.

5.) Personal computer software: Word processors, graphics, multimedia, animating, etc come under this category.

6.) AI software: Makes use of non numerical algorithms to solve complex problems that are not amenable to computation or analysis.

7.) Web based software: CGI, HTML, Java, Perl, DHTML, etc are some examples.

So, as we see the usage of softwares in various infinite fields and applications that keep on evolving day by day and time to time, software and its nature also needs to be updating and evolving parallelly.