**EDM1142 - LAB 1**

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**Course :** Introduction to Software Engineering

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**Specialty :** Software Engineering

**Question 1 : Software Engineering is part of System Engineering Process”. Do you agree with the above statement? Justify your answer**

Although Software Engineering and System Engineering process have some differences, I still agree to the fact that Software Engineering is part of System Engineering process. To bring their similarities to light, and to show that Software Engineering is also a part of System Engineering process, let’s have a view of the their definitions

* Software engineering concern about the designing and developments engineering specified software of the highest quality and should have broad information systems experience.
* System engineering process concerns on the overall management of engineering projects throughout their life cycle. . It deals with logistics, team coordination, automatic machinery control, work processes and similar tools.

From the above definitions you can see that Ssystem Engineering process has to deal with Software Engineering. Also looking at some of the steps of the System Engineering process below

* Operational Concept Development
* System Intergration
* Software Testing
* Quality Analysis
* Risks Management and Control
* Project Opportunities Analysis

We can see that at the stage of Software Testing where assessing the functionality of a software program is important, this two Engineering concepts are intertwined.

Conclusion is, even thought Software Engineering deals mostly with the development of software, steps are taken to ensure management of the project through to the end. And this is usually the use of Software Engineering processes.

**Question 2 : What is “ Software Crises ” ?**

It is the difficulty of writing useful and efficient computer programs in the required time.This often occured in the early years. The software crisis was due to the rapid increases in computer power and the complexity of the problems that could now be tackled. With the increase in the complexity of the software, many software problems arose because existing methods were inadequate.

**Question 3 : What are the professional responsibilities of a Software Engineer?**

1. As a software engineer, you'll work in a constantly evolving environment, due to technological advances and the strategic direction of the organisation you work for. You'll create, maintain, audit and improve systems to meet particular needs.
2. The role also covers writing diagnostic programs and designing and writing code for operating systems and software to ensure efficiency.
3. analyse user requirements.
4. write and test code, refining and rewriting it as necessary and communicate with any programmers involved in the project.
5. research, design and write new software programs (e.g. business applications or computer games) and computer operating systems.
6. evaluate the software and systems that make computers and hardware work.
7. develop existing programs by analysing and identifying areas for modification.
8. integrate existing software products and get incompatible platforms to work together.
9. create technical specifications.
10. write systems to control the scheduling of jobs or to control the access allowed to users or remote systems.
11. write operational documentation with technical authors.
12. maintain systems by monitoring and correcting software defects.
13. work closely with other staff, such as project managers, graphic artists, UX designers, other developers, systems analysts and sales and marketing professionals.
14. consult clients and colleagues concerning the maintenance and performance of software systems, with a view to writing or modifying current operating systems.
15. investigate new technologies.
16. continually update technical knowledge and skills by attending in-house and external courses, reading manuals and accessing new applications.

**Question 4 : “Component-based Software Engineering allows faster delivery”. State whether this statement is true or false. Justify your answe**r.

True : because due to using previously tested components they produce more reliable system at a faster rate.