

SW Metrics Exam

Exam ticket 1 Student

Short Questions:

- 1- "Reliability parameters",
- 2- "Analyse the software metrics results",
- 3- "Failure Rate",
- 4- "Function point",
- 5- "Stage of design",
- 6- "Defect Density",
- 7- "External measures",
- 8- "Coupling",
- 9- "SW metrics",
- 10- "Maintenance quality metrics",

1. Reliability parameters in software metrics are a way to assess the quality of a code or a software system. They provide the developer with additional information about the performance and health of the structure. Some common parameters include the defect density, failure rate, uptime or availability.
2. Analysing the software metrics results consists of interpreting the resulting data from each test in order to evaluate the overall performance and quality of the software. This means that in terms the software can be continuously upgraded and improved. The reliability parameters seen before are a step of the analysing process.
3. The failure rate is a reliability parameter consisting of the frequency at which a failure will happen in the software. The higher the failure rate, the more unstable the software is and how likely it is to fail when used. It is useful to identify when a code requires further improvements.
4. The function point is a standardised software metric used to evaluate the complexity and overall size of the software. It bases itself on the logical design of the software to provide the user with a quantitative measurement of the software's complexity.
5. The stages of design represent the different steps in designing the software to achieve the most simple and primitive solution. It consists of 3 major steps: Problem understanding (finding every requirement), identifying solution(s) (and choosing the most appropriate ones), and describing the solutions to have a

proper look at the components of the design. This process can then be repeated for each solution until the design is as simple as possible.

6. The defect density is a reliability parameter consisting of the number of defects found in the software relative to the size of the code. The higher the defect density, the poorer the quality of the code is.
7. The external measures metrics is used to measure which of the software's functions are the most important for the user. They are highly important to assess the quality of the software but also its efficiency and security for example.
8. The coupling is a software metric used to measure the dependence of different modules. The higher it gets, the more dependent of each other the modules get, which can cause the system to become more complex and in turn harder to sustain.
9. The Software (SW) metrics are a large group of tools essential to evaluate and improve the quality and performance of a software system. They come in different categories depending on how they describe the project, like process metrics, product metrics and project metrics.
10. The maintenance quality metrics are a category of software metrics used to evaluate the effectiveness of the maintenance of a software. They help ensuring that the software stays reliable and maintainable while preserving decent performance qualities.