Software Testing Assignment

1.what is software testing ?

- software testing is a process used to identify the correrctness, completeness, and quality of developed computer software .

- software testing is the way to assest the quality of the software & to reduce the risk of software failure

2.what is 7 key principle ? explain in detail.

Here is the 7 key principle

1. testing shows presence of defects
2. exhaustive testing is impossible
3. early testing
4. defect clustering
5. pesticide paradox
6. testing is context dependent
7. absence of error fallacy

1. testing shows presence of defects

- testing reduces the probability of undiscovered defects remaining in the software but, even if no defect are found is not a proof of correctness

2. exhaustive testing is impossible

- testing everything including all combinations of inputs and preconditions is not possible

3. early testing

- testing activities should starts as early as possible in the software or system developed life cycle and should be focused on defined objectives

4. defect clustering

- defect are not evenly spread in system

-they are clustering

EXAMPLE – corona virus duration – green zone – orange zone – red zone

5. pesticide paradox

- if the same tests are repeated over and over again , eventually the same sets of test cases will no longer find any new defects

6. testing is context dependent

- testing is basically context dependent

- testing is done differently in different contexts

-different kind of sites are tested differently

EXAMPLE – safety -critical software is tested differently from an e-commerce

- 3 to 10 failure per KLOC typical for program it was 80% testing

- 1 to 3 failure per KLOC typical for industrial software

- 0.01 failure per KLOC typical for NASA SHUTTLE CODE

7. absence of errors fallacy

- if the system built is unusable and does not fulfil the users needs and expectations the find and fixing defects does not help.