Question 5

Linters, are simplistically, small inconsistencies, formatting errors, style differences and other minute code issues that do not necessarily affect the code output, but may cause problems with maintainability, ease of use and other issues.

Specification- based techniques

This is an example of black box testing, where the program assumes no knowledge of how the program works. The code is inserted and run as is. For this, it is important to identify errors such as syntax errors, which are prevalent when coding and may cause an application to malfunction if not addressed before pushing the code. These errors may be as simple as incorrect spelling, leaving out a symbol such as a comma or parenthesis, or even indentation errors. A useful tool to correct this is by using the flake8 python linters library. It is known to have a high detection rate and a low false positive rate. Another useful program is pylint.

Structure based techniques

This is an example of white box testing. An example is branch testing, where all branches of the code are tested at least once. This ensures that dependent on the users input and endpoints, all parts of the code are reachable.

Experience based testing

This method is simply put, using a developers prior testing experience to identify code errors and apply suitable testing techniques.