

## **Unit 5: Exploring the Cyclomatic Complexity's Relevance Today**

The Cyclomatic Complexity is commonly considered in modules on testing the validity of code design today.

However, in your opinion, should it be? Does it remain relevant today?

Specific to the focus of this module, is it relevant in our quest to develop secure software? Justify all opinions which support your argument and share your responses with your team.

Absolutely, Cyclomatic complexity is relevant today

Mccabe cyclomatic complexity is simply one of the metrics used in measuring a software program's complexity (Hamilton, 2021). Measuring a program's complexity involves measuring the resources a system uses while interacting with the program; taking a computer as the system, resources to consider are execution time and storage required and if the system is a programmer, resources include difficulty of coding, modifying, testing and debugging (Ferrer et al., 2013).

Cyclomatic complexity number of a program gives an indication of the cost and effort required to run the program, its testability and how well the program is structured (Hamilton, 2021). Reliability, testability, maintainability, reusability and portability are key aspects of software quality (Diceus, 2020) and this makes cyclomatic complexity very relevant in today's world.

With respect to developing secure software, Hamilton (2021) further states that a program with a high cyclomatic complexity has a high probability for errors. Programming errors create an exposure for various attack points (Pillai, 2017)

### **Reference**

Diceus (2020) Top 10 quality metrics that matter. Available from:

<https://diceus.com/top-7-software-quality-metrics-matter/> [Accessed 16 September, 2021]

Ferrer, J., Chicano, F. and Alba, E., (2013) Estimating software testing complexity. Information and Software Technology, 55(12):2125-2139.

Hamilton T. (2021) McCabe's Cyclomatic Complexity: Calculate the Flow Graph Available from: <https://www.guru99.com/cyclomatic-complexity.html> [Accessed 16 September, 2021]

Pillai, A.B. (2017) Software Architecture with Python. Birmingham, UK. Packt Publishing Ltd.