Team activity: Discussion

Team Discussion: What is a Secure Programming Language?

You should read Chapter 2,6,7,8 of the course text (Pillai, 2017) and Cifuentes & Bierman (2019) and then answer the questions below, adding them as evidence to your e-portfolio.

1. What factors determine whether a programming language is secure or not?
2. Could Python be classed as a secure language? Justify your answer.
3. Python would be a better language to create operating systems than C. Discuss.

Answer

Discussion Outcome

1. The Factors that determine if a Programming Language is secure are its ability to have No buffer Errors, No Injection Errors and No Information leaks(Cifuentes and Bierman, 2019)
2. According to Cifuentes and Bierman, 2019, none of the current top 10 mainstream programming languages: Java, C, Python, C++, Visual Basic .NET, JavaScript, C], PHP, SQL and Objective-C meet the Above criteria hence, they are not Secure.
3. Cifuentes and Bierman also observed that Buffer errors are addressed by all mainstream languages, apart from C, C++, and PHP,through use of the managed memory. This therefore shows that Python would be better in managing Buffer Errors Than C.

Python as a programming Language generally emphasizes Readability. Python is written to mimic English language communication which makes its more readable than other programming Languages(Pillai, 2017)

References

Cifuentes, C. and Bierman, G. (2019). What is a Secure Programming Language? [online] doi:10.4230/LIPIcs.SNAPL.2019.3. Available from:https://www.mybib.com/tools/harvard-referencing-generator [Accessed 20 August 2022]

Pillai, A. 2017. *Software Architecture with Python : Architect and Design Highly Scalable, Robust, Clean, and Highly Performant Applications in Python*, Packt Publishing, Birmingham, UK. Available from: https://search-ebscohost-com.uniessexlib.idm.oclc.org/login.aspx?direct=true&db=nlebk&AN=1513359&site=ehost-live [Accessed 20 August 2022]