

***Unit Code: H181 34***

***Unit Title: Systems Development: Testing Software***

***Research Activity Worksheet for L01***

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**Class:** Systems Development - Testing

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*This* ***Research Activity Worksheet*** *is designed for you to* ***investigate*** *how the role of* ***testing*** *impacts in* ***Systems Development.*** *It is important that you remember that testing can be carried out on a number of applications not just programming but also on a number of different platforms such as portable and fixed devices.*

*This* ***Research Activity Worksheet*** *for* ***L01*** *requires you* ***to use the Internet*** *to find related information to each of the questions and then bookmark the* ***URL link****.*

*As* ***part of your research*** *to gather evidence, you are required to demonstrate an* ***understanding*** *of the* ***Software Development Life Cycle****.*

*As* ***part of your research*** *to gather evidence, you are required to* ***describe recognised test strategies*** *and* ***techniques*** *used in the testing of software and* ***describe the types of testing currently in use within the software development sector****.*

**Once complete submit to canvas ‘LO1 Research Task Submission’**

**Note: Remember to bookmark your findings as you will return to them later 😊**

***Research Questions***

**Q1.** What are the **5** main stages of the **Software Development Life Cycle**?

**A1.** Research, Ideation, Design, Development, Iteration

**Q2.** Explain why we need **Software Testing**?

**A2.** It ensures, security, saves money, provides customer satisfaction and product quality.

**Q3.** What is the role of a **Software Tester**?

**A3.** To identify bugs and errors occurring in the program.

**Q4.** Briefly describe the **history** of Software Testing?

**A4.** Modern Software testing began with the Turing Test

**Q5.** Describe **one** major **software disaster** that occurred in the last 10 years?

**A5.** Nearly 50 million Facebook accounts could be at risk after hackers exploited a vulnerability that allowed them to access the accounts and personal data of the users.

**Q6.** What is meant by the term **Test Strategy**?

**A6.** It is an outline that describes the testing approach of the software development cycle

**Q7.** What is meant by the term **Top-Down** testing?

**A7.** An incremental integration testing approach where testing is done by joining two or more modules by moving from top to bottom. High-level modules are tested first and then low-level modules are tested.

**Q8.** List **3** types of program errors that could occur?

**A8.** Syntax, logical and runtime

**Q9.** What is meant by the term **Test Case**?

**A9.** It describes an input, action or event and the expected response.

**Q10.** List **3** items that should be on a **Test Plan** document?

**A10.** Test items, features to be tested and approach.

**Q11.** Explain the difference between **Verification** and **Validation** in reference to software code?

**A11.** Verification checks whether software confirms a specification, finds bugs early in the SDLC. Validation checks whether the software meets requirements and expectation, catches bugs verification cannot catch.

**Q12.** List the **5** main stages of the **Testing Process**?

**A12.** Integration, Functional, Acceptance, Quality, Staging.

**Q13.** What is meant by the term **Debugging**?

**A13.** It’s the process of detecting and removing existing and potential errors in a software code.

**Q14.** Why does **Quality Assurance** play a major role in the Software Development Life Cycle?

**A14.** It helps maintain good relations with the client, boosting their confidence in you and boosts their experience of working with you and your product.

**Q15.** What is the **purpose of using Test Documentation** when testing a product?  
**A15.** It creates an archive and a history of what has been done, this means that it can be later used for training purposes and mitigates that chance of something being retested unneeded.

**Q16.** What is meant by the term **Black Box Testing**?

**A16.** Black box testing is testing done by someone without knowledge of the code, often done to tests features.

**Q17.** What is meant by the term **White Box Testing**?

**A17.** White box testing is done by someone who has knowledge of the code, usually a developer, often for optimization purposes.