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| **Full Stack Development**  Diploma in IT  Year 2 (2020/2021) Semester 4 | Week **1** |
| **1** hour |
| **Tutorial 1** | |

**OBJECTIVES**

At the end of this exercise, you should be able to:

* Explain the practices of full stack development
* Explain the terms in Agile frameworks

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| **IMPORTANT**   * Create a folder, **Week1**, in C: (or D:) drive and save all your work in this folder. * At the end of the session, copy this folder (all your work) to FSD network folder so that your tutor may assess your work. * The path of FSD network folder is **\\ictspace.ict.np.edu.sg\FSD** |

Choose the best answer for MCQs and provide explanation to support your choice.

* 1. Explain the term full stack development.

(<https://youtu.be/bhOSK7TzZKQ>)

Full stack development is the process and practice of developing the front end and back end aspects of the applications. This web development process involves all three layers. Presentation layer (front end part that deals with the user interface).

* 1. What conditions would it be appropriate to choose Agile over Waterfall methodology?

(<https://youtu.be/k_ndH7B-IS4>)

Scope of project is flexible

Client has no clear picture of what to expect for final product

Rapid changing product standard/regulations

Rapid production is more important than quality

* 1. What is the 4 values of Agile manifesto?

(<https://youtu.be/gf7pBZxOCtY>)

•Individuals and interactions over processes and tools

•Working software over comprehensive documentation

•Customer collaboration over contract negotiation

•Responding to change over following a plan

* 1. Define the roles in Scrum.

Project owner – PO has the responsibility of managing the product backlog

* 1. Which of the following is not a value stated in the Agile Manifesto?
     + 1. Individuals and interactions over processes and tools
       2. Working software over comprehensive documentation
       3. Customer communication over contract negotiation
       4. Responding to change over following a plan

c

the actual word used in the agile manifesto for answer c are customer collaboration over contact negotiation, rather than customer communication over contact negotiation.

* 1. A project team is discussing the priorities associated with different project management methodologies. What would an agile practitioner say is the top priority?
     + 1. Working software and lean documentation
       2. Individuals and interactions and lightweight processes and tools
       3. Customer satisfaction through the delivery of valuable products
       4. Responding to change and progressive elaboration of plans

c

This answer choice most closely resembles the highest priority according to the agile manifesto which states, “our highest priority id to satisfy the customer through early and continuous delivery of valuable software.”

* 1. Which of the following is least important in all Scrum projects? State your justification.
     + 1. Self-organization
       2. Clear hierarchies in the company
       3. Communication
       4. Continuous improvement

b.

not important to know who is in the different position in the company as it is not related to the project.

Least closely resemble agile manifesto

* 1. A Scrum master has set up a team celebration for a successful release. Which aspect of Servant Leadership are they demonstrating? Explain why?
     + 1. Shield the team from interruptions
       2. Remove impediments to progress
       3. Communicate the project vision
       4. Serve food and water

D

Serve food and water is not just about getting food and water for the team. It is about providing the essential resources to keep them nourished and productive. Appreciation is something that is important for the team to feel motivated and productive.

* 1. A project team is discussing the priorities associated with different project management methodologies. What would an Agile practitioner say is the top priority? (<https://youtu.be/SqNrW4JjsYM>)
     + 1. Working software and lean documentation
       2. Individuals and interactions and lightweight processes and tools
       3. Customer satisfaction through the delivery of valuable products
       4. Responding to change and progressive elaboration of plans
  2. Which of the following is the right activity sequence for XP?
     + 1. Write code, write test, refactor
       2. Write code, refactor, write test
       3. Write test, write code, refactor
       4. Design, write code, write test

c.

XP practice TDD, TDD requires programming to code the test code first, before coding the program. The program is refactored to optimize code efficiency at the end of each cycle.

* 1. Which practice prescribe the code is always written by two programmers at one machine?
     + 1. Pair programming
       2. Extreme programming
       3. Test-Driven development
       4. Agile development

a.

the activity is describing Pair Programming.

* 1. Which of the following is false about testing in XP?

(<https://youtu.be/QCif_-r8eK4>)

* + - 1. Tests are automated in XP
      2. Test cases are created and executed after the completion of a functionality
      3. An automated unit test framework is used to write tests for a new piece of functionality before that functionality itself is implemented
      4. Programmers prefer programming over testing and sometimes they take shortcuts when writing tests.

B

XP follows TDD, and testing are automated to run all component tests (unit testing) each time a new release is built.