Software development approach

Practice 1

What type of approach to software development is described by the following summary?

A prototype is created, then it is evaluated, and the feedback is used to inform the next version. Any changes that have been identified are made, and the process is repeated until the prototype becomes the final product.

- Waterfall lifecycle
- Spiral model
- Extreme programming
- Rapid application development (RAD)

Waterfall method

Practice 1

A traditional method of software development, e.g. the waterfall lifecycle, is a sequential approach: each stage is carried out and completed before the next begins.

Some of the stages are listed below. Drag them into linear order in line with the traditional sequential approach.

Available items

- Design
- Testing
- Analysis
- Development
- Feasibility study

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Agile methodology

Challenge 1

Many people think that an agile approach to systems development is better than a traditional waterfall approach. Select **three** reasons which could be used to justify an agile approach:

- [ ] It allows any problems with the system requirements specification to be picked up much earlier in the process.
- [ ] It allows the end user to give feedback on parts of the system before too much time is spent on developing them fully.
- [ ] It always costs less than a waterfall (stage-by-stage) development approach.
- [ ] Many users find it difficult to fully articulate their requirements at the start of a project.

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System requirements 1

Practice 1

A well-defined set of system requirements should be SMART. What does the acronym 'SMART' stand for?

- Specific, Measurable, Achievable, Relevant, Time-bound
- Stated, Measurable, Achievable, Relevant, Time-bound
- Specific, Measurable, Achievable, Relevant, Tested
- Stated, Measurable, Achievable, Relevant, Tested

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System requirements 2

Practice 1

A student has written some objectives for her software project. Which of the objectives below would be considered SMART?

The system must...

- Calculate the amount due
- Save the customer data in a database
- Be easy to use
- Format the invoice so that it is suitable for A4 printing

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Documentation

Practice 1

Documenting your code can be a laborious process. However, there are techniques that you can use that will make the process far less time-consuming.

From the list below, select one technique that will **NOT** help you make your code self-documenting.

- Making sure that each subroutine carries out one specific task
- Using meaningful identifiers for subroutines
- Using named constants where appropriate
- Avoiding the use of built-in functions