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ASSIGNMENT-2

1 Differentiate between spiral and incremental models of software engg.

SPIRAL MODEL	INCREMENTAL MODEL
Represented as a spiral shape that passes through several phases, including planning, risk analysis, engineering and evaluation.	Represented as a series of incremental builds that are added to the product until it is finished.
Each iteration produces a new version of software, building upon previous work and incorporating new requirements	Each increment builds upon the previous one and adds new features or improves existing ones
Best suited for large and complex projects where requirements are rapidly changing and risk is high	Best suited for projects where requirements are not well understood or where the client needs to see early and frequent results.
The model is a risk driven process model the combines the elements of both design and prototyping in stages	The process involves a repeated cycle of planning, designing, building and testing the software
Combines the advantages of top down and bottom up concepts	Allows for changes to be made at any stage of the development process, making it more flexible and adaptable to changing requirements

Each iteration involves a comprehensive review of the project status, and a revaluation of project goals and plans.	Each increment delivers a usable part of the final product, provided early feedback and allowing for course correction if necessary
The spiral model provides a more structured approach to software development and is more suited for complex and large projects where risks are high and requirements are rapidly changing	The incremental model provides a more flexible approach to software development and is more suited for projects where requirements are not well understood or where the client needs to see early and frequent results

2 Explain cost benefit analysis in detail:

Cost benefit analysis (CBA) is a method used to determine the feasibility of a project or proposal by comparing the costs incurred and the benefits received.

Identify cost: All direct and indirect costs incurred in implementing the project or proposal should be identified and estimated.

Identify benefits: All benefits that can be realistically expected as a result of the project or proposal should be identified and tested

Assign monetary values: It make it easier to compare and evaluate results

Compare cost and benefits: A comparison of costs and benefits should be made to determine whether the benefits outweighs the costs and by how much.

Time frame: CBA should take into account the time frame over which the costs ~~the~~ and benefits will be incurred and received.

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Uncertainity: CBA should consider the level of uncertainity associated with the estimates of cost and benefits

Sensitivity and analysis: CBA should be repeated with different assumptions about costs and benefits to test the sensitivity of the results.

Opportunity cost: The opportunity cost of implementing a project or proposal should be taken into account, which is the cost of the best alternative use of resources.

Limitations: Difficulty in assigning monetary value to intangible benefits
• difficulty in predicting future costs and benefits and considering externalities

CBA is a useful tool for evaluating the feasibility of a project or proposal by comparing costs & benefits but as it has limitations, it should be used in conjuction with other methods

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