References: Programming

Group 1. ---> Review group 6

What is a computer language?

How are Assembly languages different from High-level languages? For example

---> Demonstrate understanding of Assembly languages

---> Demonstrate understanding of high-level language

--> give examples of writing programs in each language. If possible, 2 examples for one task would be better

Group 2. --> Review group 1

1. What are compilation and interpretation? Compare the difference between the compilation approach and interpretation approach

2. How a program in a high-level language is translated into machine language?

--> - Draw the translation process from source language to machine language

- Should explain each stage

Group 3. ---> Review group 2

Today computer languages are categorized according to the approach they use to solve a problem. A paradigm, therefore, is a way in which a computer language looks at the problem to be solved.

1. Is choosing a suite programming paradigm important? why?

2.

We divide computer languages into four paradigms: procedural (imperative), object-oriented, functional, and declarative.

What are different programming paradigms? (list & definition of each type). If you ok, please for example.

Group4. --> Review group 3

Let's present some common concepts - most of these concepts are used in procedural paradigms, object-oriented paradigms,...

If you have the ability, please give an example in the programming language you are learning

--> Identifiers, Data types, Variables, Literals, Constants, Inputs and Outputs

References: Software engineering

Group5. --> Review group 4

1. What is SDLC? Phases & Models of Software Development Life Cycle ?

--> State the concept. for example

-> List the stages of software development

2. How do you understand the waterfall model? Give an example of a project you like, how do you apply this model?

---> Show understanding about waterfall model

---> Take an example of a development project following the waterfall model

Group6. --> **Review group 5**

1. How do you understand the incremental models? Give an example of a project you like, how do you apply this model?

---> Show understanding about incremental models

---> Take an example of a development project following the incremental models

2. What is the diference between the waterfall and incremental models?

(cont)

References: Software engineering

Group 1. ---> Review group 6

In The software lifecycle:

1. What are the stages of requirement gathering? How do you start a requirements gathering?

--> Solicit requirements from stakeholders

--> Documenting requirements

--> Confirming understanding of requirements

--> List assumptions and requirements.

2. What are the challenges of requirements gathering?

--> Loss of focus on the project goal:

--> Unstructured collection approach:

--> Changing circumstances:

Application example. If you collect the project of building an online shop:

https://mrhoa.com/?gclid=EAIaIQobChMIlamR9pS_-gIVG8BMAh1FggHMEAAYAiAAEgLEvvD_BwE

What will the team collect?

Group 2. --> Review group 1

In The software lifecycle:

1. What is the requirement analysis phase?

--> Requirements analysis or requirements engineering is a process used to determine the needs and expectations of a new product.

--> It involves frequent communication with the stakeholders and end-users of the product to define expectations, resolve conflicts, and document all the key requirements.

2. Describe the steps of requirements analysis that the team knows?

--> Identify Key Stakeholders and End-Users

--> Capture Requirements: Hold One-on-One Interviews, Use Focus Groups, Utilize Use Cases, Build Prototypes
--> Categorize Requirements: Functional Requirements, Technical Requirements, Transitional Requirements, Operational Requirements
--> Interpret and Record Requirements: Define Requirements Precisely, Prioritize Requirements, Resolve Conflicts, Analyze Feasibility
Application example. If you collect the project of building an online shop: https://mrhoa.com/?gclid=EAIaIQobChMIlamR9pS_-gIVG8BMAh1FggHMEAAYAiAAEgLEvvD_BwE
What will the team analysis?

Group 3. ---> Review group 2

1. What Is The Design Phase in SDLC?

---> The design phase is a stage where software developers define the technical details of the product.
--> Depending on the project, these details can include screen designs, databases, sketches, system interfaces, and prototypes.
--> Clients use these details to make final product design choices. For convenience, all details are compiled in a Software Requirement Specification (SRS) document.
--> The SRS has requirements, standards, and expectations for the future product that the client approves before any development can start.
Think of it this way:
If you had to build a ship, you have the vision of the final product. But shipbuilders need more than a vision. They need a detailed plan to build the whole thing and make it float on water. The design phase would be that plan with much-needed technical details to guide the builders.
2. Importance of Design Phase in Software Development
--> For the final product to match your vision, you need to have your requirements described and checked.
--> That's the purpose of the design phase in SDLC: create a doc where requirements are turned into design specifications.
3. What are the steps to effective project design?
--> Define Project Goal
--> Determine Outcomes, Objectives, and/or Deliverables
--> Identify Risks, Constraints, and Assumptions
--> Your Budget
--> Determine Approval and Monitoring Processes
Application example. If you collect the project of building an online shop: https://mrhoa.com/?gclid=EAIaIQobChMIlamR9pS_-gIVG8BMAh1FggHMEAAYAiAAEgLEvvD_BwE

What will the team design?

Group4. --> Review group 3

1. What are the steps of implementation process? What are the implementation activities?
--> What will this phase of the project do?
--> What does it inherit from the previous stage
--> What is the outcome of this phase?
--> In this phase the programmers write the code for the modules in procedure-oriented design, or write the program units to implement classes in object-oriented design --> Which direction to go depends on the initial choice of the project.
--> The factors contributing to this stage should be presented:Choice of language, Software quality,
2. Application example. If you collect the project of building an online shop: https://mrhoa.com/?gclid=EAIaIQobChMIlamR9pS_-gIVG8BMAh1FggHMEAAYAiAAEgLEvvD_BwE
With the above project, how does the team implement?

Group5. --> Review group 4

1. What is the purpose of testing in software engineering?
2. There are two types of testing: white-box and black-box. Please describe your understanding of these two types of testing.
3.
Application example. If you collect the project of building an online shop: https://mrhoa.com/?gclid=EAIaIQobChMIlamR9pS_-gIVG8BMAh1FggHMEAAYAiAAEgLEvvD_BwE

For example with the above project, what are a black box and white box testing? Please explain in detail

Group6. --> Review group 5

1. In manual testing, there are test types: Unit testing, Integration Testing, Functional Testing, End-to-end testing, acceptance Testing,...
What do you understand about Unit testing?
2.
Application example. If you collect the project of building an online shop: https://mrhoa.com/?gclid=EAIaIQobChMIlamR9pS_-gIVG8BMAh1FggHMEAAYAiAAEgLEvvD_BwE

For the above project, let's write 4 cases for unit testing