FAQ

Module-3	
Question 1.	**What are the main categories of loops that are supported in the Javaprogramming language?**
Answer	In the Java programming language, the three fundamental forms of loops arethe "for" loop, "while" loop, and "do-while" loop. Each programming construct has a distinct purpose, however all of them facilitate the iterativeexecution of certain code blocks.
Question 2.	**How do Arrays differ from ArrayLists in Java?**
Answer	Arrays possess a set size upon their definition, hence precluding any dynamicalteration of their length subsequent to declaration. In contrast, ArrayLists has dynamic characteristics that enable the addition or removal of components during the execution of a programme. ArrayLists are a fundamental component of the Java Collections Framework, providing a greater range ofmethods and more flexibility compared to conventional arrays.

Question 3.	**In what scenarios would the use of a "switch" statement be preferredover the implementation of numerous "if-else" statements?**
Answer	The use of a "switch" statement is advantageous in scenarios when a solitary variable has many potential values, and there is a need to run distinct code blocks contingent upon its value. The use of a single "switch" statement may provide enhanced readability and efficiency compared to using many "if-else"statements, particularly when confronted with a substantial number of circumstances.
Question 4.	**What's the significance of Java's Collections Framework?**
Answer	The Collections Framework in Java offers a cohesive structure for the representation and manipulation of collections. The collection framework encompasses many interfaces such as List, Set, and Map, together with theircorresponding implementing classes (e.g., ArrayList, HashSet, HashMap, etc.). The use of this framework streamlines the processes of storing, retrieving, and manipulating data, hence enhancing the

	efficiency and standardisation of programming operations.
Question 5.	**How does exception handling improve a program's robustness?**
Answer	The implementation of exception handling in a programme enables the programme to effectively manage and respond to unforeseen circumstances, often referred to as exceptions, in a manner that is both controlled and elegant. Rather than experiencing a programme crash upon encountering an error, it is possible for the programme to capture the problem, perhaps recordit in a log, and continue with execution or notify the user with the encountered issue. This practice guarantees that small faults do not impede the overall functioning of the programme and enhances the user's experience.