Apple Developer Academy Online Test
Practice Question Set

This set contains 25 practice questions aligned with the three knowledge areas emphasised by the Apple Developer Academy Online Test: logical reasoning, basic programming concepts, and object-oriented programming (OOP). Use them for timed drills or group discussion. Answers are intentionally omitted so you can focus on working through each problem step-by-step.

Section 1 - Logical Reasoning

1. What is the next number in the sequence 2, 6, 12, 20, 30, ___ ?

2. A farmer has goats and chickens totalling 30 heads and 100 legs. How many goats does the farmer have?

3. If all Bloops are Razzies and all Razzies are Lazzies, are all Bloops definitely Lazzies? (Yes/No)

4. A four-digit passcode uses each of the digits 1-9 exactly once and must be divisible by 5. How many possible passcodes exist?

5. Find the missing letter in the series: A, C, F, J, O, ___

6. In a class, 70% passed Math, 65% passed English and 55% passed both. What percentage failed both subjects?

7. The statement 'If it rains, the picnic will be cancelled' is true and the picnic was not cancelled. What can you say about the weather?

8. Arrange the words 'leaf', 'seed', 'flower', 'bud' so that they appear in a logical life-cycle order.

9. Two coins are tossed. What is the probability that at least one head appears?

10. Which day of the week will it be 100 days after a Wednesday?

Section 2 - Basic Programming Concepts

11. Which linear data structure follows a First-In-First-Out (FIFO) access pattern?

12. What is the output of the Python list-comprehension: [i ** 2 for i in range(3)] ?

13. Which keyword is commonly used in many languages (e.g., C, Java, Swift) to exit a loop prematurely?

14. In most languages, what error occurs if you try to divide an integer by zero at runtime?

15. Explain the difference between declaration and initialisation of a variable.

16. Convert the decimal number 42 to its binary representation.

17. What is the time-complexity of the following pseudocode? for i in range(n): for j in range(n):

do_something()

18. Which HTTP method is defined as idempotent by the HTTP/1.1 specification and is therefore safe to retry?

Section 3 - Object-Oriented Programming (OOP)

19. Name the four pillars of Object-Oriented Programming.

20. What is the main difference between a class and an object?

21. The ability of different classes to provide a unique implementation of the same method signature is called ____.

22. Given the Swift code

```
class Animal { func speak() {} }
class Dog : Animal { override func speak() { print("Woof") } }
```

Which OOP principle is demonstrated by Dog overriding speak()?

23. Which OOP principle restricts access to the internals of an object and exposes only what is necessary?

24. Give one practical difference between an interface (protocol in Swift) and an abstract class.

25. In UML, a filled diamond between two classes indicates which relationship?