Integrating Third-Party APIs into Software Development

Part 1: Office Roleplay Dialogue

Scenario: A Software Developer, Riku, is working with his colleague, Anna, to integrate a third-party **API (Application Programming Interface)** into their software.

Anna: Hey Riku, how's the API integration going?

Riku: It's coming along, but I ran into an issue with one of the **endpoints**. The server isn't returning the expected data.

Anna: Did you check the **request/response** format? Sometimes, APIs require specific headers or parameters.

Riku: Yeah, I double-checked, and I'm sending the correct parameters. I think the issue might be with **authentication**—the API key might not be valid.

Anna: That could be it. Some APIs require token-based **authentication**, so you might need to refresh your credentials.

Riku: Good point. I'll generate a new API key and test it again. By the way, the API is returning data in **JSON (JavaScript Object Notation)** format. Do we need to convert it before using it?

Anna: That depends on our system. Most modern applications can parse **JSON** easily, but we might need to transform it into a different structure.

Riku: Got it. I'll fix the authentication issue first and then check how we're handling the **JSON** data.

Anna: Sounds like a plan! Let me know if you need a second pair of eyes.

Riku: Thanks, Anna! I'll test the changes and keep you updated.

Part 2: Comprehension Questions

1. What issue did Riku face while integrating the API?
(A) The internet connection was too slow
(B) The software crashed when opened
(C) The API wasn't returning the expected data
(D) The user interface had too many buttons

2. What does authentication ensure in an API?
(A) That only authorized users can access the API
(B) That the API runs faster
(C) That the API works without an internet connection
(D) That the software uses less memory

3. What is JSON primarily used for in API integration?
(A) To increase the security of the software
(B) To speed up the API's response time
(C) To delete old requests from the server
(D) To format and exchange data between systems

4. Why did Anna suggest Riku check the request/response format?
(A) Because the API was written in a different programming language
(B) Because some APIs require specific parameters
(C) Because request/response formats change the speed of the internet
(D) Because the company needed to redesign the website

Part 3: Key Vocabulary Definitions in Japanese

1. **API (Application Programming Interface) (アプリケーションプログラミングインターフェース)** – 他のソフトウェアと連携するためのインターフェース。

2. **Endpoint (エンドポイント)** – API がデータを送受信するための URL や接続ポイント。

3. **Request/Response (リクエスト／レスポンス)** – API に送信する要求（リクエスト）と、その応答（レスポンス）。

4. **Authentication (認証)** – API の利用者が正規のアクセス権を持っていることを確認する仕組み。

5. **JSON (JavaScript Object Notation) (JSON：ジャバスクリプトオブジェクト表記法)** – データを軽量なテキスト形式で構造化するためのフォーマット。

Part 4: Questions & Correct Answers

1. **What issue did Riku face while integrating the API?**
   ✅ (C) The API wasn't returning the expected data

2. **What does authentication ensure in an API?**
   ✅ (A) That only authorized users can access the API

3. **What is JSON primarily used for in API integration?**

   ✅ (D) To format and exchange data between systems

4. **Why did Anna suggest Riku check the request/response format?**

   ✅ (B) Because some APIs require specific parameters