API Assignment Questions

1. A) The major difference between PUT And PATCH methods lies between how they update the resources. PUT methods replaces the entire data on the server with the incoming data regardless of requirement. PATCH on the other hand focuses on partial update, i.e only updating the given parts on the server.

   B) Headers are small metadata sent with each HTTP request. They contain information about the request, such as it's content type, host, authorization etc. Cookies are small pieces of data which the server asks browser to store, they contain id's like session id, or can be used for tracking analytics.

   C) Base URL is the entire URL which stays common for all API requests. It consists of protocol, domain and versioning (sometimes). In contrast, endpoints are an extension of Base URL which contains specific resource or function to access.

   D) While both Path params and Query params are used to obtain specific resources from server, they work differently. Path parameters are used to obtain the path specifically. This path can be an id, and usually are defined using a colon, : example :id. Query parameters are used after ?, question mark and they are mostly used to search, filter and customize responses.

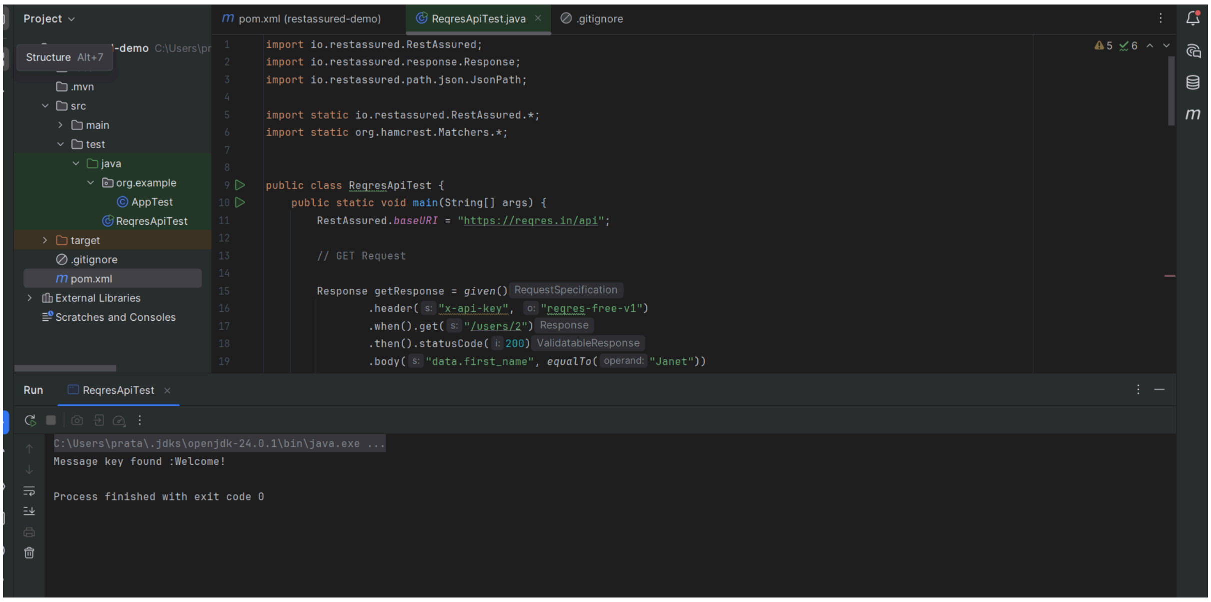
   E) Error codes are signals send through HTTP responses to aware the client about the outcome of the request in the backend.
   Some error codes series are,
   1xx - Informational
   2xx - Success
   3xx - Redirection
   4xx - Client Errors
   5xx - Server Errors

2. Here's the Postman Collection of GET, PUT, POST, PATCH and DELETE features
   https://api.postman.com/collections/38665375-a8158865-27ec-4e7e-bbee-0789e57f8c20?access_key=PMAT-01JXFDEHFHY36V2D0M330BBY5Y

3. In Rest Assured, a popular Java library for testing Rest APIs, the methods given(), when(), and then() are used to write structured and readable test cases.

given() :- It setups the request, basically defining what information is given like headers, parameters etc.
when() :- Defines the actions or triggers at which the request will be performed.
then() :- Tells what is needed to check the responses, we can assert status code, response body fields, headers etc.

4. Below is the output code using Maven and Rest Assured Library to created GPPTD, as well as extract email and send to POST request and verify presence of Message in the body.



```java
import io.restassured.RestAssured;
import io.restassured.response.Response;
import io.restassured.path.json.JsonPath;

import static io.restassured.RestAssured.*;
import static org.hamcrest.Matchers.*;


public class ReqresApiTest {
    public static void main(String[] args) {
        RestAssured.baseURI = "https://reqres.in/api";

        // GET Request

        Response getResponse = given() RequestSpecification
                .header( s: "x-api-key",  o: "reqres-free-v1")
                .when().get( s: "/users/2") Response
                .then().statusCode( i: 200) ValidatableResponse
                .body( s: "data.first_name", equalTo( operand: "Janet"))
```

```
C:\Users\prata\.jdks\openjdk-24.0.1\bin\java.exe ...
Message key found :Welcome!

Process finished with exit code 0
```

The code can be found in the repository as well.