# *CPRG 307-E - Database Programming*

## Assignment 2: Develop and Test a Coded Solution

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Syntax Error Identification, Explanation, and Correction:

Syntax Error 1

Code Section in Error (Line 47)

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Error Message Received



Reason for error:

* The NVL function is trying to use three arguments, but the function only allows two arguments in PL/SQL.

Correction:

* The correct syntax is to provide only two arguments when using NVL.A text on a white background

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Syntax Error 2

Code Section in Error: (Line 72)A close-up of a computer code

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Error Message Received:



Reason for Error:

* The SQL statement is missing a semicolon (;), causing PL/SQL to not recognize the end of the statement.

Correction:

* Add a semicolon at the end of the Update statement.A close-up of a computer screen

  AI-generated content may be incorrect.

Syntax Error 3

Code Section in Error: (Line 121)A screenshot of a computer program

AI-generated content may be incorrect.

Error Message Received:

Reason for Error:

* PL/SQL does not support ELSE IF. The correct syntax is ELSIF. The Else in line 122 is not connected to a valid If, leading to the error PLS-00103.

Correction:

* Change ELSE IF to ELSIF

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AI-generated content may be incorrect.

Syntax Error 4

Code Section in Error:

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AI-generated content may be incorrect.

Error Message Received:

A close up of a number

AI-generated content may be incorrect.

Reason for Error:

* k\_stats should be k\_status – k\_stats is not declared

Correction:

* Change k\_stats to k\_status

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AI-generated content may be incorrect.

Syntax Error 5

Code Section in Error: (Line 147)

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Error Message Received:

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AI-generated content may be incorrect.

Reason for Error:

* The END LOOP; statement is incorrectly placed inside the EXCEPTION block.
* The error occurred because there was a missing `END;` inside the `BEGIN ... END;` block before `END LOOP;`. If a `BEGIN` block is opened inside the loop, it must be properly closed before `END LOOP;`.

Correction:

* Move END LOOP; outside the EXCEPTION block to properly close the loop.
* Add END to close the Exception block before the end loop

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AI-generated content may be incorrect.

**Logical Error Identification, Explanation, and Correction:**

**Logical Error 1**

**Expected Result:** There should be 6 data entries for table gggs\_stock

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**Actual Result:** Only 4 rows of data entries are showing

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**Code Section in Error:**

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**Reason for Error:** If r\_gggs.column2 does not contain the correct name value for gggs\_vendor, the SELECT vendorID statement would fail, resulting in an error or missing data.

**Correction:** Changed the name in WHERE clause, from r\_gggs.column3 to r\_gggs.column2

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AI-generated content may be incorrect.

**Logical Error 2**

**Expected Result:** no\_in\_stock of GSDB Broccoli in gggs\_stock table should be 113

**Actual Result:** no\_in\_stock showing is 67

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**Code Section in Error:**

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AI-generated content may be incorrect.**

**Reason for Error:** Incorrect arithmetic operation in the UPDATE statement for no\_in\_stock

**Correction:** Changed the operation from subtraction to addition

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**Logical Error 3**

**Expected Result:** There should be 7 rows of data entry in table gggs\_vendor

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**Actual Result:** Missing data entry in table gggs\_vendor

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**Code Section in Error:**

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**Reason for Error:** k\_status was used instead of k\_active\_status when inserting data into gggs\_vendor. k\_status does not hold the correct active status value

**Correction:** Change k\_status to k\_active\_status

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AI-generated content may be incorrect.

**Logical Error 4**

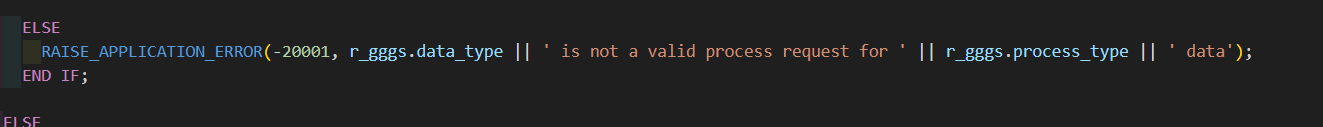
**Expected Result:** A screenshot of a computer

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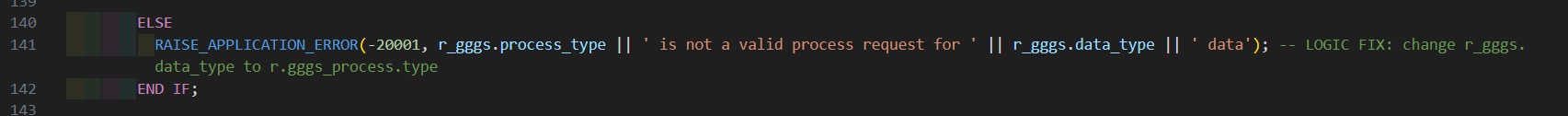
**Actual Result:**

A close-up of a message

AI-generated content may be incorrect.

**Code Section in Error: **

**Reason for Error** is that the code is incorrectly switching the data\_type and process\_type in the error message. This causes the system to interpret the wrong data as being invalid for a given process. **Correction:** Switched the r\_gggs.process\_type with r\_gggs.data\_type



**Logical Error 5**

**Expected Result:**

A screenshot of a computer

AI-generated content may be incorrect.

**Actual Result:**

A screenshot of a computer

AI-generated content may be incorrect.

**Code Section in Error:** **A screenshot of a computer program

AI-generated content may be incorrect.**

**Reason for Error** The error occurs because the StockID is generated using. NEXTVAL, which automatically increments each time it's called. This can cause gaps in the StockID sequence.

**Correction:** This correction checks the stock table to see if the stock exists before executing the NEXTVAL, ensuring the sequence is correct when inserting a new stock item into the table.

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**Additional Recommendation:**

1. Code Readability and Maintainability

* One of the improvements we can recommend is to improve the coding style to make it more readable. Currently, the script contains long nested structures which can in future be difficult to read and debug. One way to improve this is by adding comments for each block explaining the purpose of each code such as update or insert. Use of consistent indention is also much better for structure clarity. Consider using a CASE Statement instead of multiple IF-ELSIF conditions.

1. Error Handling

* Although the script raises errors with RAISE\_APPLICATION\_ERROR, which is a database level error; perhaps we can use descriptive, user-friendly messages that explain the issue, implement a lookup table to store standard error messages, and use a custom function to return formatted error descriptions.