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Computer Science Department

Database System Lab
CS 11354
Semester: Spring 2022/2023
Lab Assignment # 11

Lab Exercises:

Exercise 1:

Create a procedure named Customer_Checker that finds the customer id, name, credit limit for the customers that have credit limit between 200 and 500 (use customer table we created before). If the credit limit is less than or equal 300 then print the message "The credit limit is less than 300" else print the message "The credit limit exceeds 300". Check for errors and handle them, errors may appear because of more than expected number of rows returned if this error appeared show the message "Error: Too Many Rows Returned".

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```
CREATE PROCEDURE Customer_Checker()
BEGIN

DECLARE
  customer_id INT;
  customer_name VARCHAR(255);
  credit_limit INT;
  error_message VARCHAR(255);

BEGIN

SELECT
  customer_id,
  customer_name,
  credit_limit
FROM
  customer
WHERE
  credit_limit BETWEEN 200 AND 500;

IF credit_limit <= 300 THEN
  SET error_message = 'The credit limit is less than 300';
ELSE
  SET error_message = 'The credit limit exceeds 300';
END IF;

IF ROW_COUNT() > 1 THEN
  SET error_message = 'Error: Too Many Rows Returned';
END IF;

IF error_message IS NOT NULL THEN
  -- Print error message
  SELECT error_message;
END IF;

END;
```

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Exercise 2:

Call the previous procedure

```
CALL Customer_Checker();
```

Exercise 3:

Create a function named Middle_Number that take three parameter numbers and return a number, this function will find and return the number in the middle (not the max and not the min). create a user defined exception that will be raised when having two numbers with the same values, show the message in this exception “Error: Two or more identical numbers provided”.

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```
CREATE FUNCTION Middle_Number(
  num1 INT,
  num2 INT,
  num3 INT
)
RETURNS INT
DETERMINISTIC
BEGIN

DECLARE
  middle_number INT;

BEGIN

IF num1 = num2 OR num1 = num3 OR num2 = num3 THEN
  -- Raise exception if two numbers are identical
  RAISE_EXCEPTION 'Error: Two or more identical numbers provided';
END IF;

IF num1 > num2 THEN
  IF num1 > num3 THEN
    middle_number = num2;
  ELSE
    middle_number = num3;
  END IF;
ELSE
  IF num2 > num3 THEN
    middle_number = num1;
  ELSE
    middle_number = num3;
  END IF;
END IF;

RETURN middle_number;

END;
```

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Exercise 4:

Call the previous function using select command from dual and give it any numbers.

```
SELECT Middle_Number(1, 2, 3) FROM dual;
```