Parul University

Name: Prerak Doshi
Email: prerak12102004@gmail.com
Roll no: 25UG033422
Phone: 8849921118
Branch: Parul University
Department: CSE10_Batch 1
Batch: 2028
Degree: B.Tech - CSE

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PIET_Oracle DBMS_Course

PIET_Oracle DBMS_Session 10_CY

Attempt : 1
Total Mark : 50
Marks Obtained : 50

Section 1 : COD

1. Problem Statement

Mia is a computer science student learning PL/SQL in her DBMS course. As part of her assignment, she needs to write a PL/SQL block that calculates the factorial of the number 5. Mia decides to write a script that uses a loop to compute the factorial.

Help Mia complete the task by implementing the PL/SQL block that calculates the factorial of the number 5 and returns the factorial result.

Answer

oracle.sql

```
DECLARE

   v_number NUMBER:=5;
```

```
  v_factorial NUMBER := 1;
BEGIN

  FOR i IN REVERSE 1..v_number LOOP
    v_factorial := v_factorial * i;
  END LOOP;
```

Status : Correct ***Marks : 10/10***

2. Problem Statement

Alex is working on a data validation project and needs to verify if certain numbers are prime. A prime number is a positive integer greater than 1 with no divisors other than 1 and itself. Alex is tasked with checking whether the number 17 is prime.

Your task is to help Alex implement a PL/SQL block that will check the primality of the hardcoded number 17 and print whether the number is prime.

Answer

oracle.sql

```
DECLARE
  v_number NUMBER := 17;
  v_flag BOOLEAN := TRUE;
BEGIN
  IF v_number < 2 THEN
    v_flag := FALSE;
  ELSE
    FOR i IN 2..(v_number/2) LOOP
```

```
    IF v_number MOD i=0 THEN
      v_flag := FALSE;
      EXIT;
    END IF;
  END LOOP;
END IF;
```

Status : Correct **Marks : 10/10**

3. Problem Statement

Sophie has a number, and she wants to reverse its digits using a PL/SQL program. The program should iteratively reverse the digits of a given positive integer by repeatedly extracting the last digit using the MOD function and removing the last digit using the FLOOR function.

Your task is to write a PL/SQL block that reverses the digits of the number 1657 and outputs the reversed result.

Answer

oracle.sql

```
DECLARE

 v_number NUMBER:= 1657;

 v_reversed_number NUMBER := 0;

BEGIN


  WHILE v_number > 0 LOOP

    v_reversed_number := v_reversed_number * 10 + MOD(v_number, 10);

    v_number := FLOOR(v_number / 10);

  END LOOP;
```

Status : Correct ***Marks : 10/10***

4. Problem Statement

David needs to calculate the sum of the digits of a specific number using a PL/SQL program. The number for which the sum of digits is to be calculated is 359. The program should use the MOD function to extract the last digit and the FLOOR function to remove the last digit during each iteration of a loop.

Your task is to implement a PL/SQL block that calculates the sum of the digits of the number 359 and outputs the result.

Answer

oracle.sql

```
DECLARE

   v_number NUMBER:=359;

   v_digit NUMBER;

   v_sum NUMBER := 0;

BEGIN

   WHILE v_number > 0 LOOP

      v_digit := MOD(v_number, 10);

      v_sum := v_sum + v_digit;

      v_number := FLOOR(v_number / 10);

   END LOOP;
```

Status : Correct ***Marks : 10/10***

5. Problem Statement

Harish is working on a data validation task and needs to determine if a number is a palindrome using a PL/SQL program. A number is considered a palindrome if it reads the same forwards and backwards.

Your task is to implement a PL/SQL block that determines if the number 141 is a palindrome and outputs the result. The program should use the MOD function to extract the last digit and the FLOOR function to remove the last digit of the number.

Answer

oracle.sql

```
DECLARE
   v_number NUMBER := 141;
   v_original_number NUMBER;
   v_reversed_number NUMBER := 0;
BEGIN
   v_original_number := v_number;

   WHILE v_number > 0 LOOP
      v_reversed_number := v_reversed_number * 10 + MOD(v_number, 10);
      v_number := FLOOR(v_number / 10);
   END LOOP;
```

Status : Correct ***Marks : 10/10***