1. PL/SQL recursive function for finding factorial of a number:

sql Copy code

```
CREATE OR REPLACE FUNCTION factorial(n IN NUMBER) RETURN NUMBER IS BEGIN IF n = 0 THEN
RETURN 1; ELSE RETURN n * factorial(n-1); END IF; END factorial;
```

Sample output:

markdown Copy code

```
SELECT factorial(5) FROM DUAL; FACTORIAL(5) ------------- 120
```

2. PL/SQL function for finding a number is a prime number:

vbnet Copy code

```
CREATE OR REPLACE FUNCTION is_prime(n IN NUMBER) RETURN BOOLEAN IS prime BOOLEAN := TRUE;
BEGIN IF n <= 1 THEN prime := FALSE; ELSE FOR i IN 2..n-1 LOOP IF n mod i = 0 THEN prime
:= FALSE; EXIT; END IF; END LOOP; END IF; RETURN prime; END is_prime;
```

Sample output:

scss Copy code

```
SELECT is_prime(7) FROM DUAL; IS_PRIME(7) ------------ TRUE
```

3. PL/SQL function to retrieve the count of students from the 'CSE' department:

sql Copy code

```
CREATE OR REPLACE FUNCTION count_cse_students RETURN NUMBER IS cse_count NUMBER; BEGIN
SELECT COUNT(*) INTO cse_count FROM Student WHERE dept = 'CSE'; RETURN cse_count; END
count_cse_students;
```

Sample output:

markdown Copy code

```
SELECT count_cse_students() FROM DUAL; COUNT_CSE_STUDENTS() -------------------- 10
```

4. PL/SQL function to retrieve the maximum CGPA of a student:

sql Copy code

```sql
CREATE OR REPLACE FUNCTION max_cgpa RETURN NUMBER IS max_cgpa NUMBER; BEGIN SELECT MAX(cgpa) INTO max_cgpa FROM Student; RETURN max_cgpa; END max_cgpa;
```

Sample output:

scss Copy code

```
SELECT max_cgpa() FROM DUAL; MAX_CGPA() ---------- 4.00
```

5. PL/SQL function to compute the average of two numbers:

sql Copy code

```sql
CREATE OR REPLACE FUNCTION average(n1 IN NUMBER, n2 IN NUMBER) RETURN NUMBER IS avg NUMBER; BEGIN avg := (n1 + n2) / 2; RETURN avg; END average;
```

Sample output:

markdown Copy code

```
SELECT average(5, 10) FROM DUAL; AVERAGE(5,10) -------------- 7.5
```