

St. Xavier's College(Autonomous)

Computer Science Department Practical Assignment Sheet on PL/SQL

1. Fibonacci series which should be less than or equal to 'N'. Where the first two number of the Fibonacci series are 1 and 1.

The formula for generating Fibonacci series is :

$$F_n = F_{n-1} + F_{n-2}$$

2. Input any (1-999999999) digit positive integer number. Print the sum of the digits of the given number.
3. Input any number n (1 – 9999). Print all perfect numbers which are $\leq n$.
[Example : $6 = 1+2+3$, $28 = 1+2+4+7+14$]
4. Calculate the value of PI. Where

$$PI = 3^{\frac{1}{2}} \times 2 \left(1 - \frac{3^{-1}}{3} + \frac{3^{-2}}{5} - \frac{3^{-3}}{7} + \frac{3^{-4}}{9} - \frac{3^{-5}}{11} \dots\dots \right)$$

Verify your result with

$$\pi = 3.1415926535897932384$$

5. Apply recursive call to do the following:
 - (i) Input 'n'(1-20). Calculate sum of 'n' numbers.
 - (ii) Input 'n'(1-20). Calculate product of 'n' numbers.
 - (iii) Input 'n'(2-40). Print 'n' number fibonacci numbers.
6. Input number of disks (1-20). Apply the principle of Towers of Hanoi to transfer those all disks from Peg-1 to Peg-2 using Peg-3. You have to assume that all disks are of different sizes and arranged in ascending order in Peg-1. While transferring those disks you can not change the arrangement of those disks. At the end of the process print how many operations you have performed. Use recursive call in your program.
7. Create a table table1a consisting following fields; (i) emp_id number(3) primary key, (ii) name varchar(30), (iii) basic_pay number(6), (iv) da number(6), (v) hra number(6), (vi) pf number(6), (vii) gross number(6), (viii) net number(6). Write PL/SQL Code to insert at least 10 records in fields (i), (ii) and (iii). After that calculate and replace the other fields as follows:
(iv) da=30% of basicpay, (v) hra=15% of basicpay subject to a maximum of 2000, (vi) pf=8.33% of (basic+da), (viii) gross=basicpay+da+hra, (ix) net=gross-pf. Display all records and also total number of records in table1a.
8. Define a cursor salary and read all records from table1a and calculate and print the following: (i) total number of records, (ii) Total basicpay pay, (ii) total da, (iii) total hra, (iii) total pf, (iv) total gross, (v) total net and display on screen. Calculate and print maximum, minimum gross pay and display on screen.