1. Write a program to find LEAP year by using :

a) if\_else and logical operators.

1. Conditional operator.

(A Leap year is divisible by 4 and is not divisible by 100 but it could be divisible by 400)

1. Write a program to accept the Basic Salary & total sales amount for a salesperson and calculate commission according to the sales amount. The range is as follows –

|  |  |
| --- | --- |
| **Sales Amount in Rs.** | **Commission (%) on Sales** |
| 5,000 to 7,500 | 3 |
| 7,501 to 10,500 | 8 |
| 10,501 to 15,000 | 11 |
| 15,000 and above | 15 |

Display the Net Salary and the commission earned.

1. Write a program to accept an Emp\_ID & DeptNo as numeric data and Designation Code as character data. Display the entered data with proper messages.

|  |  |  |  |
| --- | --- | --- | --- |
| **Department No.** | **Department Name** | **Designation Code** | **Designation** |
| 10 | Purchase | ‘M’ | Manager |
| 20 | Sales | ‘S’ | Supervisor |
| 30 | Production | ‘A’ | Analyst |
| 40 | Marketing | ‘s’ | Sales Person |
| 50 | Accounts | ‘a’ | Accountant |

e.g. If Emp\_ID = 101, Desig\_Cd = ‘M’ & Dept\_Cd = 10 then the message displayed should be in the following format –

Employee with Emp\_ID 101 works in “Purchase” department as a “Manager”.

1. Enter date in dd/mm/yy format. Write a program to print total no of days in a month and month as character month. E.g. if date is entered as 23/07/2000 then display the message as : July has 31 days. Your program should take care of leap year also.
2. Write a program to print all Armstrong numbers in a range 0 to 1000. Armstrong number is one which has following properties: 153 = (1\*1\*1)+(5\*5\*5)+(3\*3\*3)
3. 2) Write a program to generate a fibonacci series upto n terms where n is accepted from the user.

0 1 1 2 3 5 8 ……. n terms

1. Write a program to display whether a user entered number is Prime or not. Modify the above program to display first 25 prime numbers using while loop. Also write the same program using for and do-while loops.
2. Generate multiplication tables from 2 to 8.
3. Modify first program to print all prime numbers from 1 to 300.
4. Write a program to generate the following output:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  |  | 1 | 1 |  |  |
|  | 2 | 1 | 1 | 2 |  |
| 3 | 2 | 1 | 1 | 2 | 3 |

1. Write a program to generate all possible combinations of 1,2,3 using for loop.
2. Write a program to find Pythagorean triplet in the range 0 to 100. E.g. 32 + 42 = 52
3. Write a program for matchstick game between the computer and a user. Your program should ensure that the computer always wins. Rules, for the game are as follows :-
4. There are 21 matchsticks.
5. The computer asks the player to pick 1, 2, 3, or 4 matchsticks.
6. After the person picks, the computer does its picking.
7. Whoever is forced to pick up the last matchstick loses the game.