**Basic console io**

1. Write a program to accept marks of five subjects from the user and calculate their average.
2. Write a program to add two numbers and store the result in a third variable. Print the result.
3. Write a program to swap two variables using a third variable and without using third variable.
4. Write a program to calculate Net Salary of an employee. Accept Basic Salary (BS) from the user. HRA is 15% of BS DA is 30% of BS PF is 12.5% of GS Gross Salary is BS + HRA + DA Net Salary = Gross Salary – PF

**Selection Statements**

1. Write a program to accept the basic salary and total sales amount for a salesperson and calculate commission according to sales amount. Display the net salary and commission earned. (Net Salary = Basic Salary + Commission) The range is as follows.

|  |  |
| --- | --- |
| **Sales Amount in Rupees** | **Commission on Sales** |
| 5000 to 7500 | 3% |
| 7501 to 10500 | 8% |
| 10501 to 15000 | 11% |
| 15000 and above | 15% |

1. Using switch-case construct, write a menu driven program to perform basic calculations (addition, subtraction, multiplication and division) on two user entered numbers.
2. Write a program to find maximum of three numbers using conditional operators.

**Loops**

1. Write a program to print whether user entered number is an Armstrong number. Armstrong number is one for which the sum of the cube of all its digits is same as the number. For example, 153 = (1\*1\*1) + (5\*5\*5) + (3\*3\*3)
2. Write a program to display whether a user entered number is prime or not.
3. Write a program to generate all possible combinations of 1, 2, 3 using for loop.
4. Write a program for matchstick game between the computer and the user. Your program should ensure that the computer always wins. Rules for the game are as follows: a. There are 21 matchsticks b. The computer asks the player to pick 1, 2, 3, or 4 matchsticks. C. Player is given the chance to pick the sticks first then the computer picks the sticks. d. Whoever is forced to pick up the last matchstick loses the game.
5. Write a program to check if user entered number is perfect number. (A perfect number is a number for which sum of its factors equals that number e.g. 6=1+2+3, 28=1+2+4+7+14)