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| **20MCA16 - PROGRAMMING LOGIC AND DESIGN** |

**ASSIGNMENT -1: GROUP -1**

**TASK-1: FUNDAMENTAL ALGORITHMS**

1. **Exchanging the values of two variables**
2. **Counting**
3. **Summation of a set of numbers**

**TASK-2: LOOPS**

1. **Program to find Sum of Digits**
2. **Program to reverse a String**

**TASK-3: ESSENTIAL PROGRAMS**

1. **Find ASCII Value of Character**
2. **If-Else**
   1. **Write a C program to check whether a given number is positive or negative.**
   2. **Write a C program to read the age of a candidate and determine whether it is eligible for casting his/her own vote.**

**TASK-4: Number Crunching**

1. **Print Factors of a Number**
2. **Find sum of n Numbers**
3. **Print first n Prime Numbers**

**TASK-5: Concept of Functions/Recursion**

1. **Palindrome using recursion**
2. **Power of N using recursion**
3. **Largest Array Element using recursion**

**TASK-6: FACTORING METHODS:**

1. **Generation of pseudo-random numbers**

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**ASSIGNMENT -1: GROUP -2**

**TASK-1: FUNDAMENTAL ALGORITHMS**

1. **Factorial computation**
2. **Sine Function computation**
3. **Generation of the Fibonacci**

**TASK-2: LOOPS**

1. **Program to find Factorial of number**
2. **Fibonacci Series Program**

**TASK-3: ESSENTIAL PROGRAMS**

1. **Write a C program to read the value of an integer m and display the value of n is 1 when m is larger than 0, 0 when m is 0 and -1 when m is less than 0**
2. **Write a C program to find the eligibility of admission for a professional course based on the following criteria:    
   Eligibility Criteria : Marks in Maths >=65 and Marks in Phy >=55 and Marks in Chem>=50 and Total in all three subject >=190 or Total in Maths and Physics >=140 ------------------------------------- Input the marks obtained in Physics :65 Input the marks obtained in Chemistry :51 Input the marks obtained in Mathematics :72 Total marks of Maths, Physics and Chemistry : 188 Total marks of Maths and Physics : 137 The candidate is not eligible.**
3. **Checking for Vowel**

**TASK-4: Number Crunching**

* 1. **Program to find Average of n Numbers**
  2. **Armstrong Number**
  3. **Checking input number for Odd or Even**

**TASK-5: Concept of Functions/Recursion**

* 1. **Factorial using recursion**
  2. **Fibonacci Series using recursion**
  3. **Sum of First N Numbers using recursion**
  4. **Sum of Digits using recursion**

**TASK-6: FACTORING METHODS:**

* 1. **The Greatest Common divisor of two integers**

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**ASSIGNMENT -1: GROUP -3**

**TASK-1: FUNDAMENTAL ALGORITHMS**

1. **Reversing the digits of an integer**
2. **Base conversion**
3. **Character to number conversion**

**TASK-2: LOOPS**

1. **Palindrome Program**

**TASK-3: ESSENTIAL PROGRAMS**

1. **Reversing Case of Character**
2. **Swapping Two Numbers**
3. **Largest and Smallest using Global Declaration**

**TASK-4: Number Crunching**

1. **Find Largest among n Numbers**
2. [**Exponential without pow()**](https://www.studytonight.com/c/programs/numbers/finding-exponential-without-pow()-method)
3. **Find whether number is int or float**
4. **Print Multiplication Table of input Number**

**TASK-5: Concept of Functions/Recursion**

1. **Prime or Composite using recursion**
2. **LCM of Two Numbers using recursion**
3. **GCD of Two Numbers using recursion**
4. **Reverse a String using recursion**

**TASK-6: FACTORING METHODS:**

1. **Finding the square root of a number**