

1. Basic Calculator

- **Problem:** Write a program that takes two numbers and an operator (+, -, *, /) as input and performs the corresponding operation. Display the result.
- **Concepts Used:** Variables, arithmetic operators, `if-else` statements.

2. Even or Odd Checker

- **Problem:** Write a program that asks the user to input a number and checks if it is even or odd.
- **Concepts Used:** Variables, modulo operator, `if-else` structure.

3. Eligibility for Voting

- **Problem:** Write a program that takes a person's age as input and determines if they are eligible to vote (age must be 18 or above).
- **Concepts Used:** Variables, relational operators, `if-else` statements.

4. Find the Largest Number

- **Problem:** Write a program that takes three numbers as input and determines which number is the largest.
- **Concepts Used:** Variables, relational operators, nested `if-else`.

5. Temperature Converter

- **Problem:** Write a program that converts temperature from Celsius to Fahrenheit and vice versa, based on user input.
- **Formula:**
 - $\text{Fahrenheit} = (\text{Celsius} \times 9/5) + 32$
 - $\text{Celsius} = (\text{Fahrenheit} - 32) \times 5/9$
- **Concepts Used:** Variables, arithmetic operators, `if-else` statements.

6. Grade Calculator

- **Problem:** Write a program that asks for the marks of a student in three subjects. Calculate the average marks and print the grade based on the following conditions:
 - $\text{Average} \geq 90$: A
 - $80 \leq \text{Average} < 90$: B
 - $70 \leq \text{Average} < 80$: C
 - $60 \leq \text{Average} < 70$: D
 - Below 60: F
- **Concepts Used:** Variables, arithmetic operators, decision control (`if-else` or `switch`).

7. Discount Calculator

- **Problem:** Write a program that takes the total shopping amount as input and calculates the final amount after applying a discount based on the following conditions:
 - If the amount is greater than 5000, apply a 20% discount.
 - If the amount is between 3000 and 5000, apply a 10% discount.
 - If the amount is less than 3000, no discount.
- **Concepts Used:** Variables, arithmetic operators, decision control (`if-else`).

8. Leap Year Checker

- **Problem:** Write a program that takes a year as input and checks if it is a leap year or not.
- **Leap Year Condition:** A year is a leap year if:
 - It is divisible by 4.
 - However, it should not be divisible by 100 unless it is divisible by 400.
- **Concepts Used:** Variables, modulo operator, `if-else` structure.

9. Simple Interest Calculator

- **Problem:** Write a program to calculate simple interest. The formula is:
 - $\text{Simple Interest} = (\text{Principal} \times \text{Rate} \times \text{Time}) / 100$
- **Concepts Used:** Variables, arithmetic operators.

10. Login System

- **Problem:** Write a program that asks the user to enter a username and password. If the username is "admin" and the password is "1234", print "Login Successful". Otherwise, print "Login Failed".
- **Concepts Used:** Variables, string comparison, `if-else`.