

## Practice Questions : if-elif-else

- Question:** Write a program that checks if a given number is even or odd. Print "Even" if the number is even, otherwise print "Odd".  
**Sample Input:** 6  
**Sample Output:** Even  
**Sample Input:** 11  
**Sample Output:** Odd
- Question:** Create a program that determines whether a given year is a leap year or not. A leap year is divisible by 4, but not divisible by 100 unless it is also divisible by 400.  
**Sample Input:** 2020  
**Sample Output:** Leap year  
**Sample Input:** 2100  
**Sample Output:** Not a leap year
- Question:** Write a program to determine the largest among three numbers.  
**Sample Input:** 5, 10, 7  
**Sample Output:** Largest number is 10  
**Sample Input:** -3, -8, -1  
**Sample Output:** Largest number is -1
- Question:** Create a program to check if a triangle is equilateral, isosceles, or scalene. Assume the input represents three sides of the triangle.  
**Sample Input:** 3, 3, 3  
**Sample Output:** Equilateral  
**Sample Input:** 5, 5, 7  
**Sample Output:** Isosceles  
**Sample Input:** 3, 4, 5  
**Sample Output:** Scalene
- Question:** Write a program to determine if a given character is a vowel or a consonant.  
**Sample Input:** 'a'  
**Sample Output:** Vowel  
**Sample Input:** 'z'  
**Sample Output:** Consonant
- Question:** Create a program that determines whether a given number is positive, negative, or zero.  
**Sample Input:** 10  
**Sample Output:** Positive  
**Sample Input:** -5  
**Sample Output:** Negative  
**Sample Input:** 0  
**Sample Output:** Zero

7. **Question:** Write a program to determine the grade of a student based on their marks. Consider the following grading scheme:
- 90 or above: A
  - 80-89: B
  - 70-79: C
  - 60-69: D
  - Below 60: F
8. **Question:** Write a program to determine if a given year is a century year. A century year is evenly divisible by 100.  
**Sample Input:** 2000  
**Sample Output:** Century year  
**Sample Input:** 2021  
**Sample Output:** Not a century year
9. **Question:** Create a program to calculate the total cost of items purchased based on the following discount rules:
- If the total cost is greater than or equal to \$100, apply a 10% discount.
  - If the total cost is greater than or equal to \$50 but less than \$100, apply a 5% discount.
  - Otherwise, no discount is applied.
10. **Question:** Write a program to determine the season based on the given month. Assume that January, February, and March are winter months; April, May, and June are spring months; July, August, and September are summer months; and October, November, and December are autumn months.  
**Sample Input:** March  
**Sample Output:** Winter  
**Sample Input:** August  
**Sample Output:** Summer
11. **Question:** Create a program to calculate the roots of a quadratic equation  $ax^2 + bx + c = 0$ . Handle cases where the equation has real and distinct roots, real and equal roots, and imaginary roots.  
**Sample Input:** a=1, b=-3, c=2  
**Sample Output:** Roots are 2.0 and 1.0  
**Sample Input:** a=2, b=4, c=2  
**Sample Output:** Roots are -1.0 and -1.0  
**Sample Input:** a=1, b=2, c=3  
**Sample Output:** Roots are -1.0 + 1.414i and -1.0 - 1.414i
12. **Question:** Write a program to determine the eligibility of a person to vote based on their age. Assume the legal voting age is 18 years.  
**Sample Input:** 20  
**Sample Output:** Eligible to vote  
**Sample Input:** 16  
**Sample Output:** Not eligible to vote

13. **Question:** Create a program that determines whether a given year is a "magic year" or not. A magic year is a year whose digits sum up to 10.  
**Sample Input:** 2023  
**Sample Output:** Not a magic year  
**Sample Input:** 2035  
**Sample Output:** Magic year
14. **Question:** Write a program to determine if a given string is a palindrome. A palindrome is a word, phrase, number, or other sequence of characters that reads the same backward as forward.  
**Sample Input:** "radar"  
**Sample Output:** Palindrome  
**Sample Input:** "hello"  
**Sample Output:** Not a palindrome
15. **Question:** Create a program to calculate the electricity bill based on the units consumed. The rates are as follows:
- For the first 100 units: \$1 per unit
  - For the next 200 units: \$1.50 per unit
  - For any additional units: \$2 per unit
16. **Question:** Create a program that determines the eligibility of a person to participate in a marathon based on their age and gender. The eligibility criteria are as follows:
- Men must be at least 18 years old.
  - Women must be at least 21 years old.
17. **Question:** Write a program to calculate the fare for a ride-sharing service based on the distance traveled and time taken. The fare is calculated as follows:
- Base fare: \$5.00
  - Distance fare: \$0.75 per mile
  - Time fare: \$0.20 per minute
18. **Question:** Write a program to calculate the discount percentage based on the purchase amount. The discount percentage is determined as follows:
- If the purchase amount is greater than or equal to \$100, apply a 10% discount.
  - If the purchase amount is greater than or equal to \$50 but less than \$100, apply a 5% discount.
  - Otherwise, no discount is applied.
19. **Question:** Create a program to determine the type of a given angle (in degrees) based on its measure. Consider the following classifications:
- Acute: An angle less than 90 degrees.
  - Right: An angle equal to 90 degrees.
  - Obtuse: An angle greater than 90 degrees but less than 180 degrees.
  - Straight: An angle equal to 180 degrees.
20. **Question:** Write a program to determine the type of a given year in the Chinese zodiac based on the birth year. The Chinese zodiac has a 12-year cycle, with each

year represented by an animal. The cycle starts with the Rat and ends with the Pig.

**Sample Input:** 2000

**Sample Output:** Dragon

**Sample Input:** 1991

**Sample Output:** Sheep

21. **Question:** Create a program to classify a given year as a "Golden Year" or not. A Golden Year is a year in which the day of the week of January 1st repeats on December 31st.

**Sample Input:** 2025

**Sample Output:** Not a Golden Year

**Sample Input:** 2040

**Sample Output:** Golden Year

22. **Question:** Create a program to determine the type of a given polygon based on the number of sides. Consider the following classifications:

- Triangle: 3 sides
- Quadrilateral: 4 sides
- Pentagon: 5 sides
- Hexagon: 6 sides
- Heptagon: 7 sides
- Octagon: 8 sides
- Nonagon: 9 sides
- Decagon: 10 sides