

Assignment 2

1. Voting Eligibility

- Ask the user for their age.
 - If age is 18 or above, print: "You are eligible to vote."
 - Else: "You are not eligible to vote."
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2. Odd or Even Checker

- Ask the user to enter a number.
 - Print whether it's even or odd.
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3. Positive, Negative, or Zero

- Ask the user to input any number.
 - Print whether it is positive, negative, or zero.
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4. Temperature Feedback

- Input: temperature in °C
 - Output:
 - `>= 30`: "It's hot today."
 - `15-29`: "Nice weather!"
 - `< 15`: "It's cold today."
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5. Simple Calculator (Two Numbers, Operator as Input)

- Ask user to input two numbers and one operator (+ , - , * , /)
 - Use `if-elif-else` to perform the correct operation.
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📏 Math & Measurement Based Conditions

6. Area Type Checker

- Ask user to input area value.
 - Print:
 - `< 100`: "Small Area"
 - `100 to 500`: "Medium Area"
 - `> 500`: "Large Area"
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7. BMI Calculator

- Ask user for weight (kg) and height (m).
 - Calculate BMI: `weight / (height ** 2)`
 - Categorize using `if-elif-else`:
 - `<18.5`: Underweight
 - `18.5–24.9`: Normal
 - `25–29.9`: Overweight
 - `30+`: Obese
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8. Student Grade Calculator

- Input marks (0–100)
- Grade:
 - `90+`: A

- 80–89 : B
 - 70–79 : C
 - 60–69 : D
 - <60 : F
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9. Triangle Type Checker

- Input: 3 sides of a triangle.
 - Output:
 - All sides equal → Equilateral
 - Two sides equal → Isosceles
 - All sides different → Scalene
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10. Volume Checker

- Input the length of a cube.
 - If volume > 1000 → "Large cube"
 - Else → "Small cube"
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🔗 Practical Real-Life Examples

11. Password Checker

- Input password.
 - If it matches "admin123" → Access Granted
 - Else → Access Denied
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12. Bus Fare Calculator

- Input age.
 - Fare rules:
 - <5 : Free
 - 5–18 : ₹10
 - 18–60 : ₹20
 - 60+ : ₹5
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13. Water Level Checker

- Input: tank water level in liters.
 - Print:
 - <100 : "Please refill water."
 - 100–1000 : "Water level is sufficient."
 - >1000 : "Overflow warning!"
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14. Electricity Bill Estimator

- Input: units consumed
 - Rate:
 - 0–100 : ₹5/unit
 - 101–300 : ₹7/unit
 - >300 : ₹10/unit
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15. Leap Year Checker

- Input a year
 - If divisible by 4 and not by 100, or divisible by 400 → Leap year
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☒ Strings, Membership & Conditions

16. Check if a Letter is a Vowel

- Input a character
 - Check if it is in "aeiouAEIOU"
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17. Email Validator (Simple)

- Input email
 - If it contains @ and ends with .com or .org → Valid
 - Else → Invalid
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18. Name Greeting with Length Check

- Input name
 - If name is too short (<3 characters) → "Too short!"
 - Else → Print greeting: f"Hello {name}, nice to meet you!"
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19. Username Availability (Simple Check)

- Input desired username
 - If it matches any from list ['admin', 'user', 'test'] → Not available
 - Else → Available
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20. Fuel Level Warning

- Input fuel in liters
- Show:
 - <5: "Refuel now!"
 - 5-20: "Fuel is low"
 - >20: "You're good to go"