```python
#1. Identify if a Number is Positive or Negative
num = float(input("Enter a number: "))
if num > 0:
    print("Positive")
elif num < 0:
    print("Negative")
else:
    print("Zero")
```

```
Enter a number: 100
    Positive
```

```python
#2. Identify if a Number is Even or Odd
num = int(input("Enter a number: "))
if num % 2 == 0:
    print("Even")
else:
    print("Odd")
```

```
Enter a number: 100
    Even
```

```python
#3. Calculate the Power of a Number
base = float(input("Enter base: "))
exponent = float(input("Enter exponent: "))
result = base ** exponent
print(f"{base} ^ {exponent} = {result}")
```

```
Enter base: 2
    Enter exponent: 3
    2.0 ^ 3.0 = 8.0
```

```python
#4. Compare Two Numbers
a = float(input("Enter first number: "))
b = float(input("Enter second number: "))
if a > b:
    print("First number is greater")
elif a < b:
    print("Second number is greater")
else:
    print("Both numbers are equal")
```

```
Enter first number: 100
    Enter second number: 200
    Second number is greater
```

```python
# 5. Determine if a Year is a Leap Year (using conditional statements)
year = int(input("Enter a year: "))
```

```
if (year % 4 == 0 and year % 100 != 0) or (year % 400 == 0):
    print(f"{year} is a leap year")
else:
    print(f"{year} is not a leap year")
```

→▼   Enter a year: 2026
      2026 is not a leap year

```
#6. Grade Calculator
score = int(input("Enter student's score: "))
if 90 <= score <= 100:
    grade = 'A'
elif 80 <= score < 90:
    grade = 'B'
elif 70 <= score < 80:
    grade = 'C'
elif 60 <= score < 70:
    grade = 'D'
else:
    grade = 'F'

print("Grade:", grade)
```

→▼   Enter student's score: 100
      Grade: A

```
#7. How Old Are You? (Age-Based Messages)
age = int(input("Enter your age: "))
if age < 16:
    print("You can't drive.")
elif age < 18:
    print("You can drive but not vote.")
elif age < 25:
    print("You can vote but not rent a car.")
else:
    print("You can do pretty much anything.")
```

→▼   Enter your age: 22
      You can vote but not rent a car.

```
#8. FizzBuzz Challenge
for i in range(1, 101):
    if i % 3 == 0 and i % 5 == 0:
        print("FizzBuzz")
    elif i % 3 == 0:
        print("Fizz")
    elif i % 5 == 0:
        print("Buzz")
    else:
```

```
    print(i)
```

```
43
44
FizzBuzz
46
47
Fizz
49
Buzz
Fizz
52
53
Fizz
Buzz
56
Fizz
```

Buzz

```python
#9. Leap Year Checker (with example output)
year = int(input("Enter the year = "))
if (year % 4 == 0 and year % 100 != 0) or (year % 400 == 0):
    print(f"{year} is a leap year")
else:
    print(f"{year} is not a leap year")
```

```
Enter the year = 2025
2025 is not a leap year
```

Start coding or generate with AI.