1. Age Calculator

Description:

The user enters their birth year, and the program calculates and displays their current age and what age they will be next year.

Skills Applied:

User input, type conversion, math operations, and formatted output.

Example Output:

Enter your birth year: 2003

You are 21 years old.

Next year, you will be 22.

---

2. Basic Bill Splitter

Description:

Takes the total amount of a bill and the number of people, and calculates how much each person must pay.

Skills Applied:

Float casting, division, string formatting, and input validation using if to check for zero or negative values.

Example Output:

Enter total bill amount: 150.75

Enter number of people: 3

Each person should pay: R50.25

---

3. Simple Grade Evaluator

Description:

User enters their test score, and the program returns a grade evaluation (Distinction, Pass, or Fail).

Skills Applied:

Integer casting, if-elif-else control flow, and output formatting.

Example Output:

Enter your test score: 88

Result: You passed with distinction!

---

4. Temperature Converter

Description:

Converts temperature from Celsius to Fahrenheit and displays it neatly formatted.

Formula Used: F = (C × 9/5) + 32

Skills Applied:

Math, string formatting, type casting, input handling.

Example Output:

Enter temperature in Celsius: 20

20°C is equal to 68.0°F

---

5. Simple Login Simulator

Description:

Prompts the user for a username and password, and checks it against hardcoded values. Displays success or error messages accordingly.

Skills Applied:

String comparison, user input, conditional logic, string methods (like .strip() or .lower() for bonus).

Example Output:

Enter username: admin

Enter password: python123

Access granted!

---

6. Student Info Formatter

Description:

The user is prompted to enter their name, age, course, and student number. The program then prints a neatly formatted student profile.

Skills Applied:

Input handling, type conversion, string formatting (f-string and .format()), and data presentation.

Example Output:

Enter your name: Zama

Enter your age: 20

Enter your course: Robotics

Enter your student number: 210056

--- Student Profile ---

Name: Zama

Age: 20

Course: Robotics

Student Number: 210056

---

7. Basic Unit Converter

Description:

A menu-like system that lets users choose between converting kilometers to miles, or kilograms to pounds, and performs the correct conversion.

Skills Applied:

User input, math operations, if-elif-else, and string formatting.

Conversion Factors:

- 1 km = 0.621371 miles
- 1 kg = 2.20462 pounds

Example Output:

Choose conversion:

1. Kilometers to Miles

2. Kilograms to Pounds

Enter choice (1 or 2): 1

Enter value in km: 10

10.0 km = 6.21 miles

---

8. Expense Categorizer

Description:

User inputs the description and amount of an expense. Based on the amount, the program categorizes it as "Low", "Moderate", or "High".

Skills Applied:

Float conversion, conditionals, string manipulation, and formatted print.

Example Output:

Enter expense name: Groceries

Enter amount: 850

Category: Moderate Expense

---

9. Username Generator

Description:

Based on the user's first name and last name, generate a simple username suggestion using string slicing and manipulation.

Skills Applied:

String indexing, lower(), strip(), + operator for strings.

Example Output:

Enter first name: Blessing

Enter last name: Mokoena

Generated username: bless.moko

---

10. Basic BMI Calculator

Description:

Takes a user's weight (kg) and height (m), calculates the Body Mass Index (BMI), and classifies it.

Formula: BMI = weight / height^2

Classifications:

- Underweight: BMI < 18.5
- Normal: 18.5 ≤ BMI < 25
- Overweight: BMI ≥ 25

Skills Applied:

Float conversion, math operations, conditionals, and formatted output.

Example Output:

Enter your weight (kg): 70

Enter your height (m): 1.75

Your BMI is 22.86 – Normal weight.