Instructions:

- You have 20 minutes to complete this coding exercise.
- Attempt all questions. Comment your code where necessary.

Q1. Variables and Data Types (5 minutes)

Write a program to:

1. Assign the following values to variables:
   - `name`: your name
   - `age`: your age
   - `height`: your height in centimeters
   - `is_student`: a boolean indicating whether you are a student
2. Print the types of all variables using the `type()` function.

Q2. Conditionals (5 minutes)

Write a program that:

1. Takes an integer input from the user.
2. Checks if the number is:
   - Greater than 0: Print "Positive"
   - Less than 0: Print "Negative"
   - Equal to 0: Print "Zero"

Q3. Loops (5 minutes)

Write a program to:

1. Print all even numbers between 1 and 10 using a `for` loop.
2. Print the sum of these even numbers.

Q4. Functions (5 minutes)

Write a function called `square()` that:

1. Takes a single integer as input.
2. Returns the square of the number.
3. Call the function with the input `4` and print the result.

Assignment 1: Data Type Detective

- **Task:** Create a program that takes three inputs from the user: a number, a word, and a decimal number.
- **Instructions:**
    - Store each input in a separate variable using appropriate data types.
    - Print the data type of each variable.
    - Perform simple operations on each variable, such as addition, subtraction, or concatenation, and print the results.

Assignment 2: Name That Variable

- **Task:** Write a program that takes a variable name as input from the user.
- **Instructions:**
    - Determine if the given variable name follows Python's naming conventions.
    - If it's valid, print "Valid variable name."
    - If it's invalid, print "Invalid variable name." and explain why.

Assignment 3: Temperature Converter

- **Task:** Create a program that converts temperatures between Celsius and Fahrenheit.
- **Instructions:**
    - Ask the user to choose between Celsius to Fahrenheit or Fahrenheit to Celsius.
    - Take the temperature value as input from the user.
    - Use the appropriate formula to convert the temperature.
    - Print the converted temperature.

Assignment 4: Grade Calculator

- **Task:** Write a program that calculates a student's grade based on their percentage score.
- **Instructions:**
    - Take the percentage score as input from the user.
    - Use an if-elif-else ladder to determine the grade (e.g., A, B, C, D, F).
    - Print the calculated grade.

Assignment 5: Leap Year Checker

- **Task:** Create a program that checks if a given year is a leap year.
- **Instructions:**
    - Take the year as input from the user.

- Use an if-elif-else ladder to determine if the year is a leap year according to the leap year rules.
- Print whether the year is a leap year or not.

Assignment 6: Write lyrics

- **Task:** Create a program that generates the entire lyrics at Super Simple.
- **Instructions:**
  - Use formatted strings.
  - In line if constructs to make as much short program as possible.