

CSE216

Foundations of Computer Science

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Exercise 1: Hello World

- Task: Write a program that prints "Hello, World!" followed by a new line.

Exercise 2: Debugging Type Error

- Try combining `x` and `y` using the `^` operator. What error do you see? Choose your own `x` and `y`
- Debug and make things right

Exercise 3: Basic Arithmetic

- Do research on the Taylor expansion of e^x around $x = 0$
- Write a function **taylor** that computes e^x using the first three items of the Taylor expansion
- Calculate e^x at $x = 0.1$ with the function **taylor**. Expected result is 1.105

Exercise 4: Functions with multiple arguments

- Important note: Define a function with “let function_name function_parameters = ...”
- Write a function **sum** that takes two integers as arguments and returns their sum.
- Write a function **average** that takes two float values and returns their average.

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Exercise 5: Basic Recursion

- Important note: Define a recursive function with “let rec function_name function_parameters = ...”
- Write a recursive function **factorial** to calculate the factorial of a number.
- Test Input: 5
- Expected Output: 120

Exercise 6: Conditional Statements

- Write a function **maximum** that takes three integers and returns the largest of them.