

# Assignment #09

## Tasks and Functions

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### Tasks

- **4-bit Adder using Task:** Implement a task that takes two 4-bit inputs and returns the sum.
- **Multiplication using Task:** Create a task that multiplies two 8-bit numbers and returns the result
- **Clock Generation using Task:** Implement a task to generate a clock signal with a specified time period.
- **Parity Bit Calculation:** Use a task to calculate the parity (even/odd) of an 8-bit input.
- **Bitwise Operations Task:** Write a task that performs AND, OR, XOR, and NOT operations on two 4-bit inputs.

### Functions

- **Factorial Calculation using Function:** Write a recursive function to compute the factorial of a given number.
- **Maximum of Three Numbers:** Implement a function that takes three inputs and returns the maximum.
- **Bitwise Reverse Function:** Create a function that reverses the bits of an 8-bit input.
- **Hamming Distance Calculation:** Write a function to compute the Hamming distance between two 4-bit numbers.
- **8-bit Comparator:** Implement a function that compares two 8-bit numbers and returns 1 if equal, otherwise 0.