The following examples should be implemented using Python:

- **FEM-BEM Game:**
  Write a program that outputs all natural numbers. If a number is divisible by 3, the program should output `FEM` instead of the number. If a number is divisible by 5 it should output `BEM`. In the case where a number is divisible by 3 and 5 it should output `FEM-BEM`. The resulting sequence should be:
  `1, 2, FEM, 4, BEM, FEM, 7, 8, FEM, BEM, 11, FEM, 13, 14, FEM-BEM, 16, 17, FEM, 19, BEM, FEM, 22, 23, FEM, BEM, 26, FEM, 28, 29, FEM-BEM, 31, 32, FEM, 34, BEM, FEM, ...`
- **Multiples of 3 and 5:**
  If we list all the natural numbers below 10 that are multiples of 3 or 5, we get 3, 5, 6 and 9. The sum of these multiples is 23. Find the sum of all the multiples of 3 or 5 below 1000.
- **Fibonacci Numbers:**
  Each new term in the Fibonacci sequence is generated by adding the previous two terms. By starting with 1 and 2, the first 10 terms will be: `1, 2, 3, 5, 8, 13, 21, 34, 55, 89, ...` By considering the terms in the Fibonacci sequence whose values do not exceed four million, find the sum of the even-valued terms.
- **Largest Prime-Factor:**
  The prime factors of 13195 are 5, 7, 13 and 29. What is the largest prime factor of the number 600851475143?
- **Largest palindrome product [optional]:**
  A palindromic number reads the same both ways. The largest palindrome made from the product of two 2-digit numbers is $9009 = 91 \times 99$. Find the largest palindrome made from the product of two 3-digit numbers.
- **Smallest multiple [optional]:**
  2520 is the smallest number that can be divided by each of the numbers from 1 to 10 without any remainder. What is the smallest positive number that is evenly divisible by all of the numbers from 1 to 20?