

Polynomials

Some examples of polynomials:

$$f(x) = 7x^3 + 5x^2 - 11x + 3.4$$

$$g(x) = 2x^4 + 5x^3 - 11x^2 + 3.4x + 1$$

$$h(x) = 2x^8$$

Your main goal today is to create a program that allows to:

1. Read x (any number)
2. Read level of polynomial – it is the maximum of power, i.e. level of $f = 3$, $g = 4$, $h = 8$ (1 pt.)
3. Read all parameters – all values multiplying x-es (1 pt.)
4. Calculate value of polynomial (1 pt.)

Example

1. User writes “6.23” $\rightarrow x=6.23$
2. User writes “4”, so polynomial looks like this: $f(x) = ?x^4 + ?x^3 + ?x^2 + ?x + ?$
3. User needs to write 5 parameters. If user writes 1, 2, 3, 4, 5¹, we will know our function looks like: $f(x) = 1x^4 + 2x^3 + 3x^2 + 4x + 5$
4. Now we need to display value of: $f(6.23) = 6.23^4 + 2 * 6.23^3 + 3 * 6.23^2 + 4 * 6.23 + 5$

If you will use Math.pow(), I will drop 1pt.

¹ Multiple prompts