**Pi Representation**

Euler Number [e] = 2.718281828459045

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**Taylor Expansion**

At X =1 we get Euler number [e] = 2.718281828459045 in Machine uses 15 Decimal places

“Until infinity” 🡪 is defined by each machine capacity for how many decimal places it can handled

For example, in machine that have max double = 1.7976931348623157E+308

And (170)! = 7.257415615308004E+306

Therefore; (171)! = will be exceeding its precision capacity 🡪 (171)! = ∞

Because its value will exceed the value that can be represented in double datatype.

Therefore, any bigger value for a factorial > 170 no change in the Taylor Expansion (value will remain the same)

Therefore, this Euler number [e] is only a sum series of factorial reciprocals, and its value is limited by the machine capacity

From Leibniz-series

This relation between e and shown next in Leibniz graph

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If we reversed the scientific notation by multiply 1000000000000000

We will series sum will reach value = 1718281828459046.8

And if we subtract pi from this value we will get

y - pi = 1718281828459043.5

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Zeta function is One case from Dirichlet’s generalization

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If φ(S) use -0.5 instead of -1



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This means this sum converge to Zero if we subtract 1/9.0

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Converge to n/2

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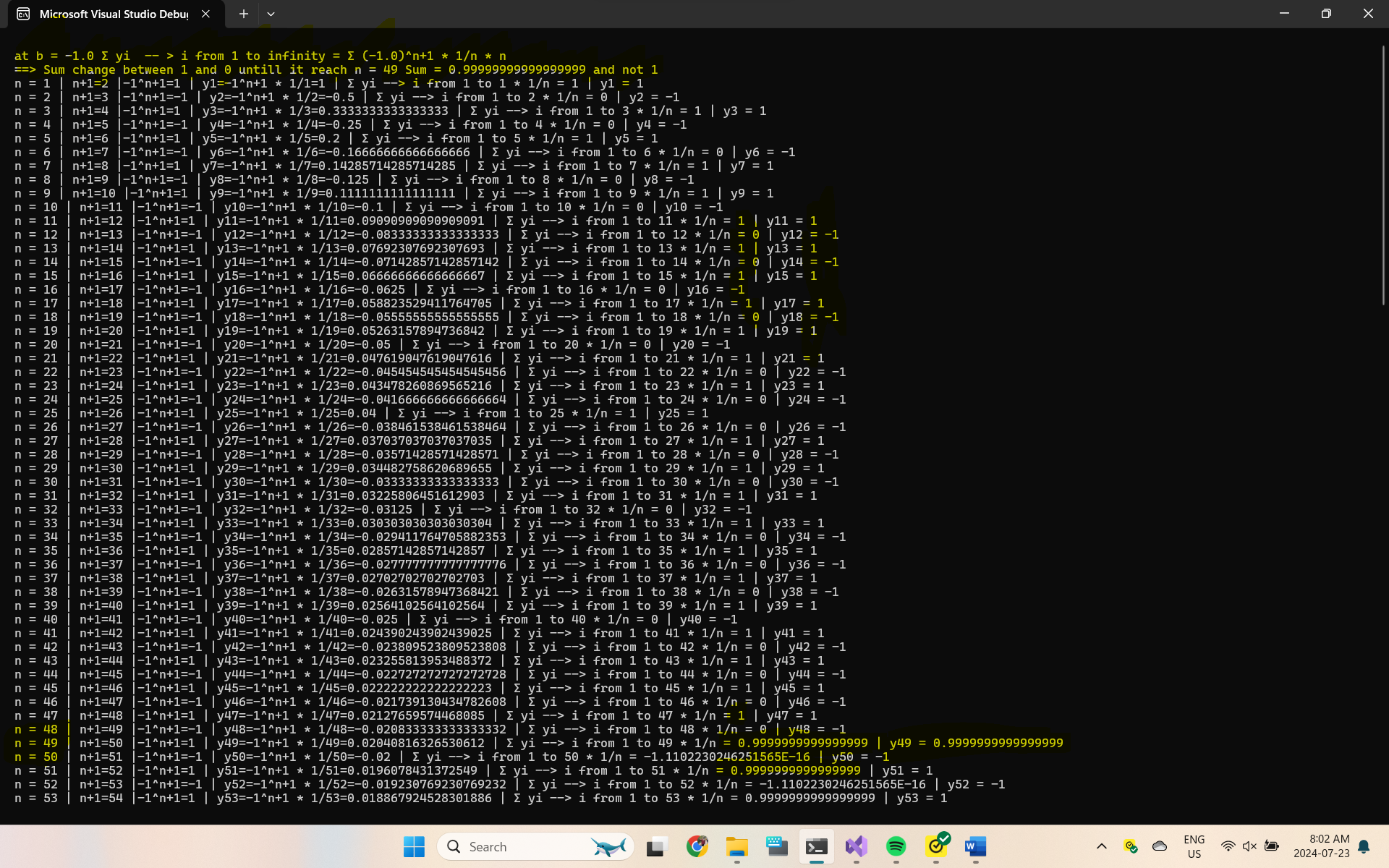
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In theory, these terms should be changing between -1 and 1 but the calculations of 1/n and adding all terms together at n = 49 we will see that

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The other math constant [π] if it is a constant then it also related to machine capacity of calculations

Therefor for sure it can be represented as a summation series like Tylor series