Assignment 1 Report

Group 8

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Procedure:

- Prompt asking for input from the user
- Get the value of X from the user
- $t0 stores the number of iterations, initialised with 0
- $t1 stores the current sum after going through an iteration, initialised with 0
- $t2 stores the current term that will be added in the current iteration
- For the term in Taylor Series, we keep track of the power of x in $t4 that will contribute to the term being added in that iteration. For example this term stores x^0 in the first iteration, x^1 in the second iteration, x^2 in the third iteration and so on.
- For the term in Taylor Series, we keep the track of the factorial in $t5 that will contribute to the term being added in that iteration. For example this term stores 0! in the first iteration, 1! in the second iteration, 2! in the third iteration and so on.
- Entering the loop for calculating the taylor series sum
- Adding the Term of a taylor series to current sum
- Increasing the number of iterations by 1
- Calculating the next power of x in $t4 by multiplying with the previous power of x
- Calculating the next factorial in $t5 by multiplying the last factorial value with number of iterations
- Calculating the term to be added for the next iteration by dividing $t4 with $t5
- Moving the quotient after the division to our term to be added in iteration
- Going to LoopCondition to check if the iteration needs to be further continued
- If the term that needs to be added in the current iteration of Taylor Series is greater than 0, we continue with the next iteration
- Printing the answer for the calculated value of e^x

Printing the answer for number of iterations done

Input (x)	Calculated Value	Number of Iterations
-5	1	1
-4	1	1
-3	1	1
-2	1	1
-1	1	1
0	1	1
1	2	2
2	6	4
3	18	7
4	50	9
5	143	12
6	391	12
7	1035	13
8	2429	11
9	4757	10
10	10501	12