Course No: CECS 545

Project #2 – Calc Net

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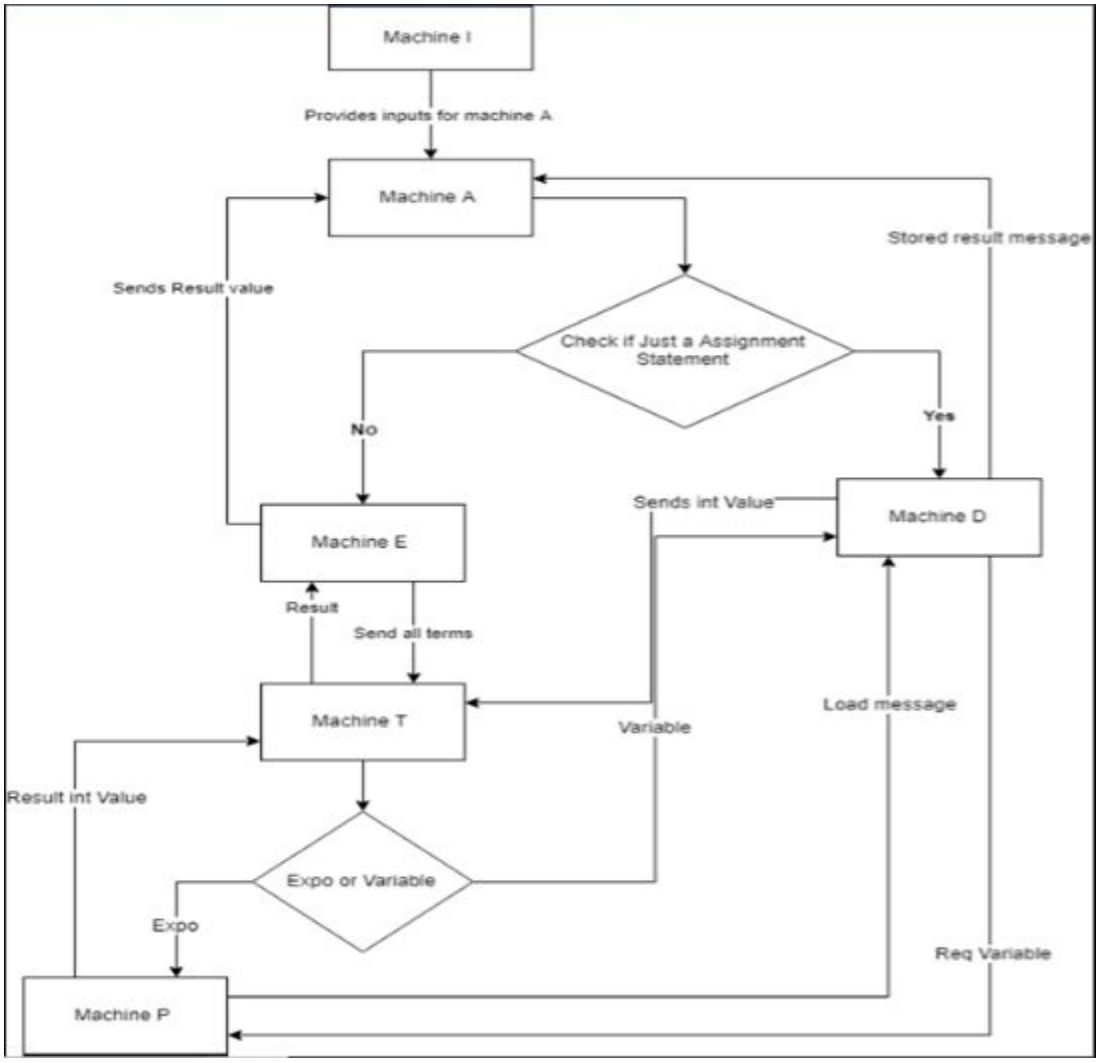
Design Requirements:

- There should be at most 5 unique variables
- Only + * ^ operations
- System of Equation
- One equation per unique variable
- N-1 variables explicitly set
- Setup at beginning (first inputs)

Program Flow:



Analysis:

- We have created the main class called machine and sub-classes for each machine(A,E,T,D,P,I). which are then calling different methods for required processing.
- Implemented Asynchronous programming.
- Machines are communicating with ACK and NAK signalling.
- Machine_I will accept five equations and send each equation to Machine_A for processing and wait for response back from it, to process next equation.
- In case any of sender machine is getting NAK response from sending machine then sender machine retries to send message after 1 Second.
- A_machine splits of the RHS and send it to E_machine, and it gets E result value and send a storage message to a D_machine. On getting the stored result the A_machine returns value to I_machine and becomes ready for other statement
- E_machine will split off each term and send it to T_machine
- We have created two instances of T machine but only one copy of other machines.
- If first machine T1 is busy then it will call second machine T2 machine and send ACK signal. If T2 is also busy then it will send back NAK signal.
- D_machine is data machine which stores all the variables when they are introduced. It gives values of variable when required by any machine.
- P_machine receives exponent to compute from T_machine then it takes value of variable from D_machine and if found it computes the value and sends ack to T_machine.