SYMBIOSIS INSTITUTE OF TECHNOLOGY, NAGPUR

Symbiosis International (Deemed University)

(Established under section 3 of the UGC Act, 1956)

Re-accredited by NAAC with 'A++' Grade | Awarded Category – I by UGC

Founder: Prof. Dr. S. B. Mujumdar, M. Sc., Ph. D. (Awarded Padma Bhushan and Padma Shri by President of India)

MES CA-1

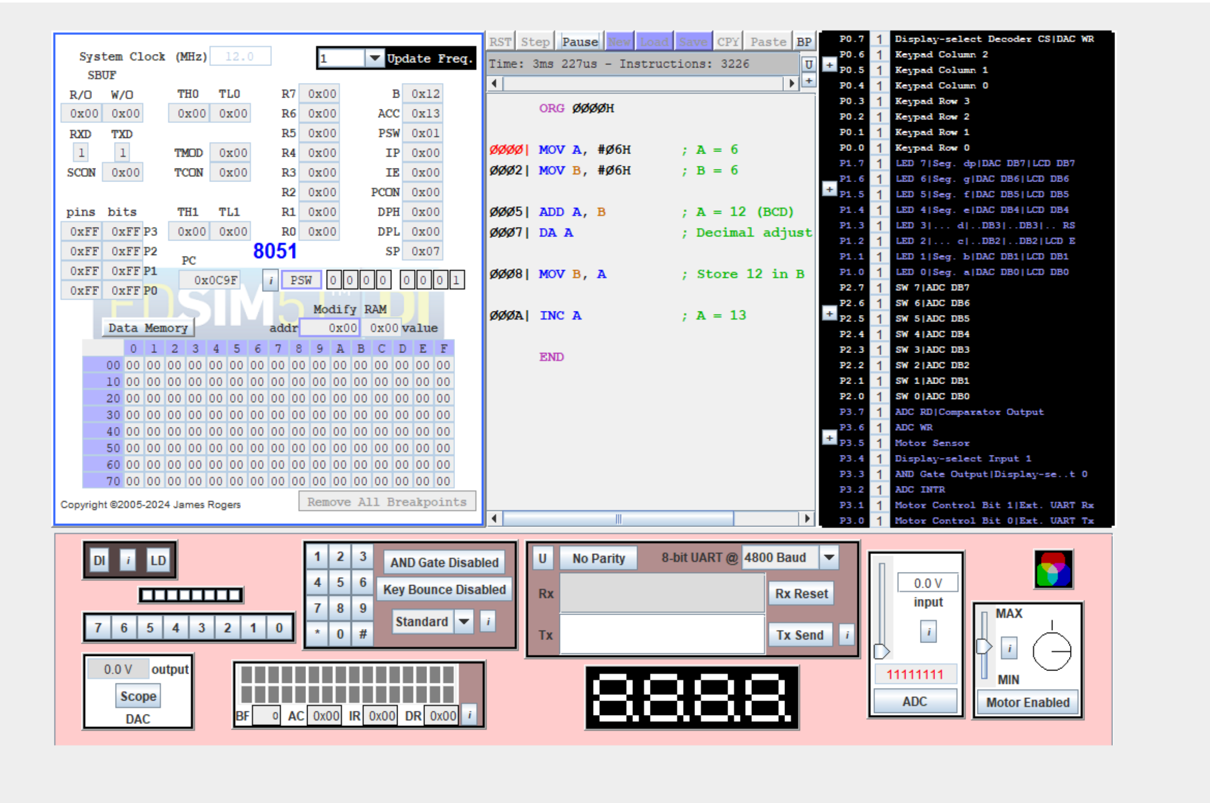
NAME: Anaya Shende

PRN: 24070521213

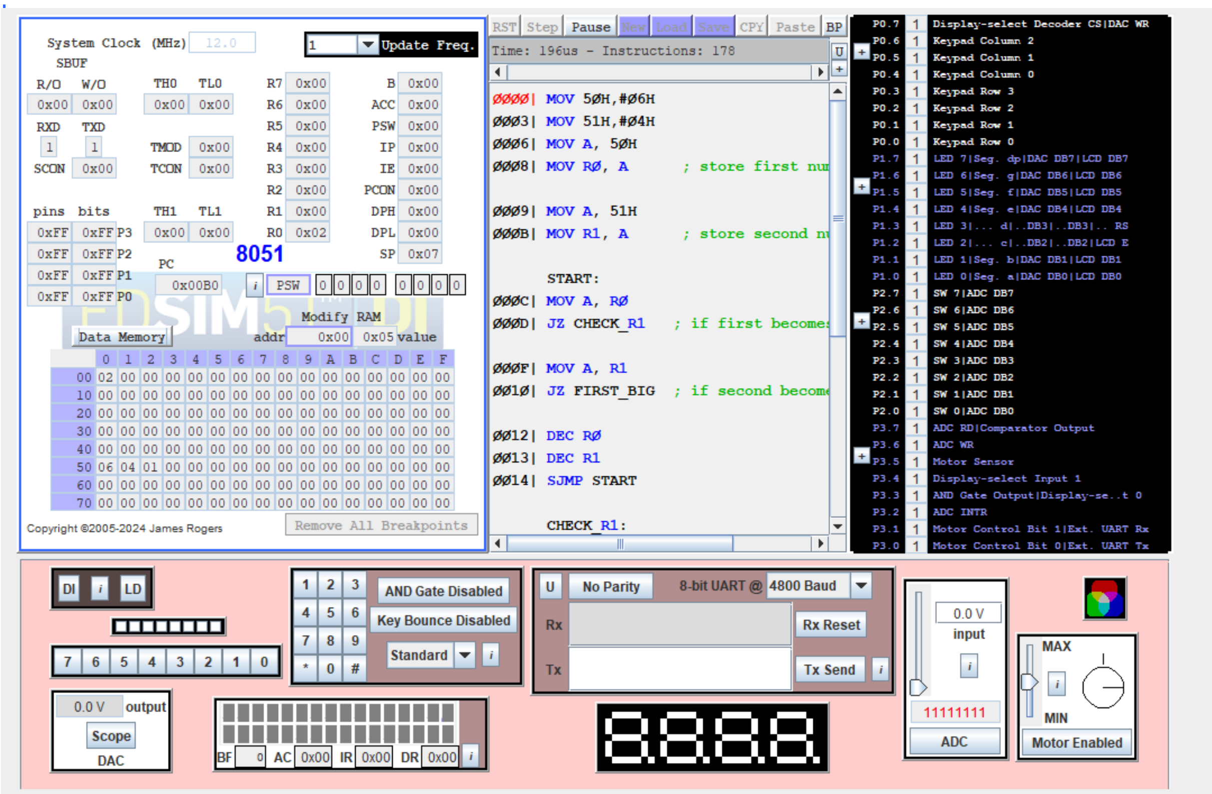
SECTION: D

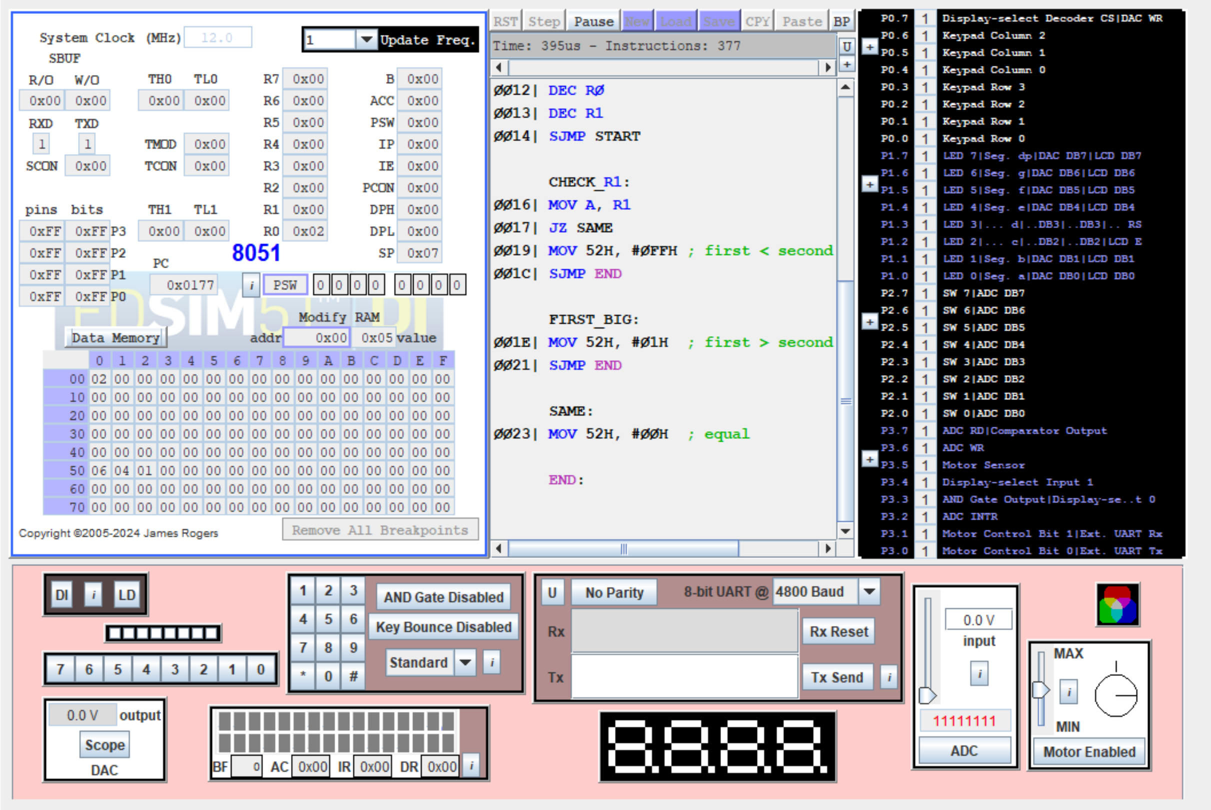
SEMESTER: 4th

Q.1. Write an 8051 Assembly Language Program (ALP) to generate the last four digits of your PRN using arithmetic instructions only. The final result should be available in the Accumulator (A).

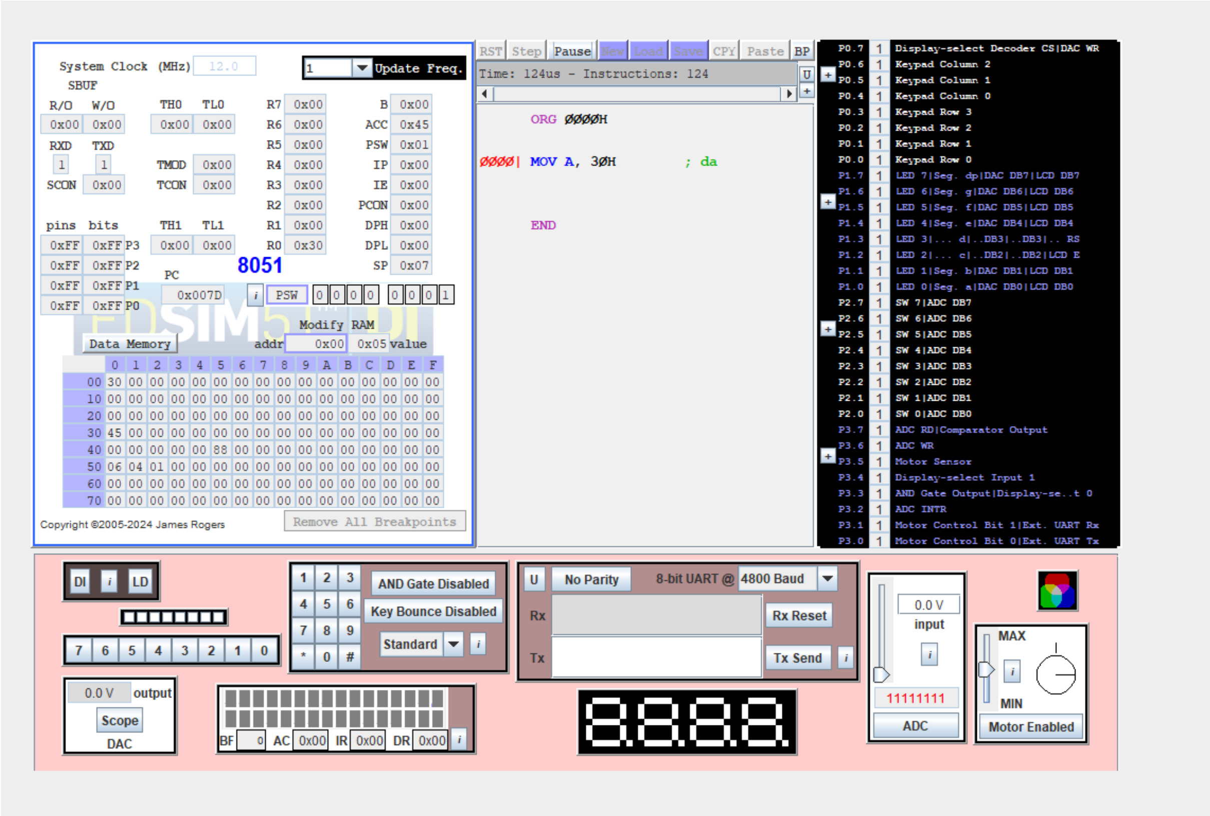


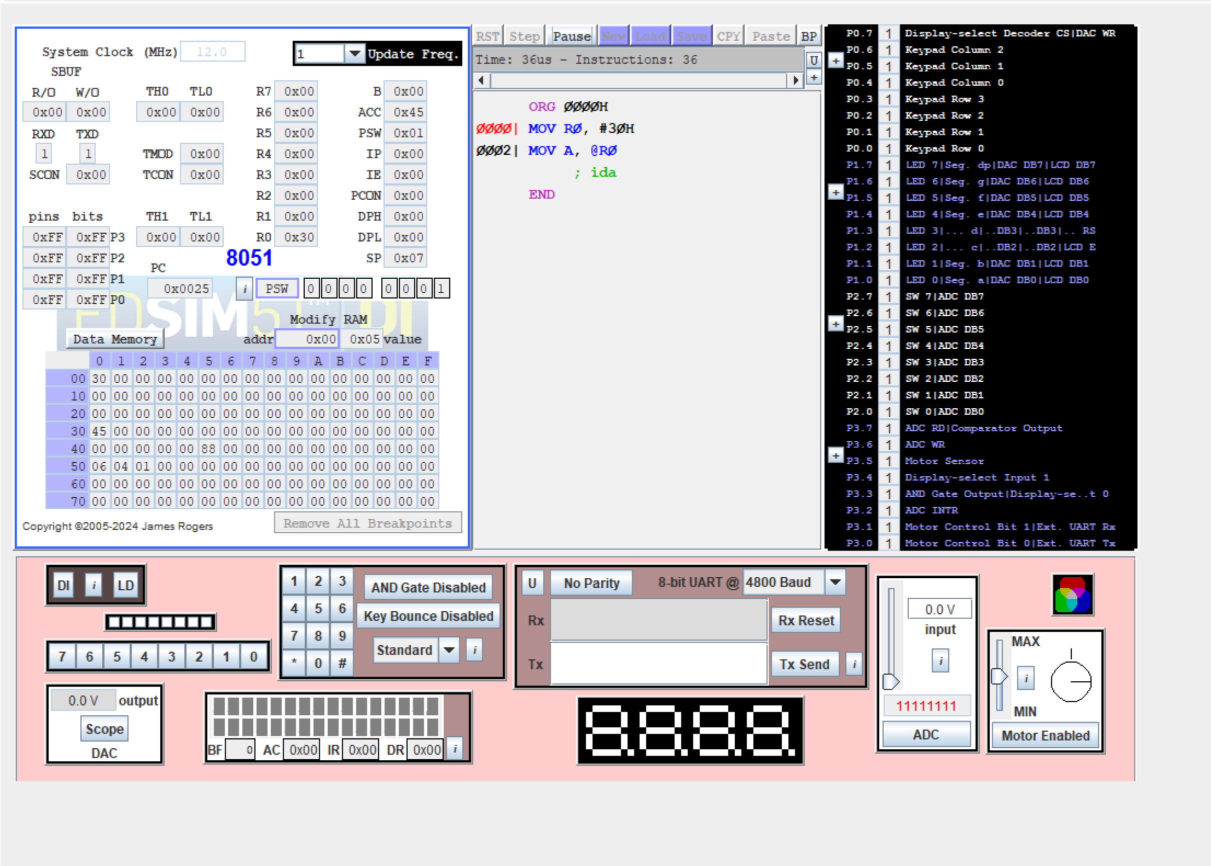
Q.2. Write an 8051 Assembly Language Program to compare two unsigned numbers stored at internal RAM locations 50H and 51H without using CJNE, DJNZ, or SUBB. Only MOV, INC, DEC, JZ, JNZ, CLR, SETB, ANL, and ORL instructions are allowed. Store the result such that 01H indicates 50H > 51H, 00H indicates equality, and FFH indicates 50H < 51H.



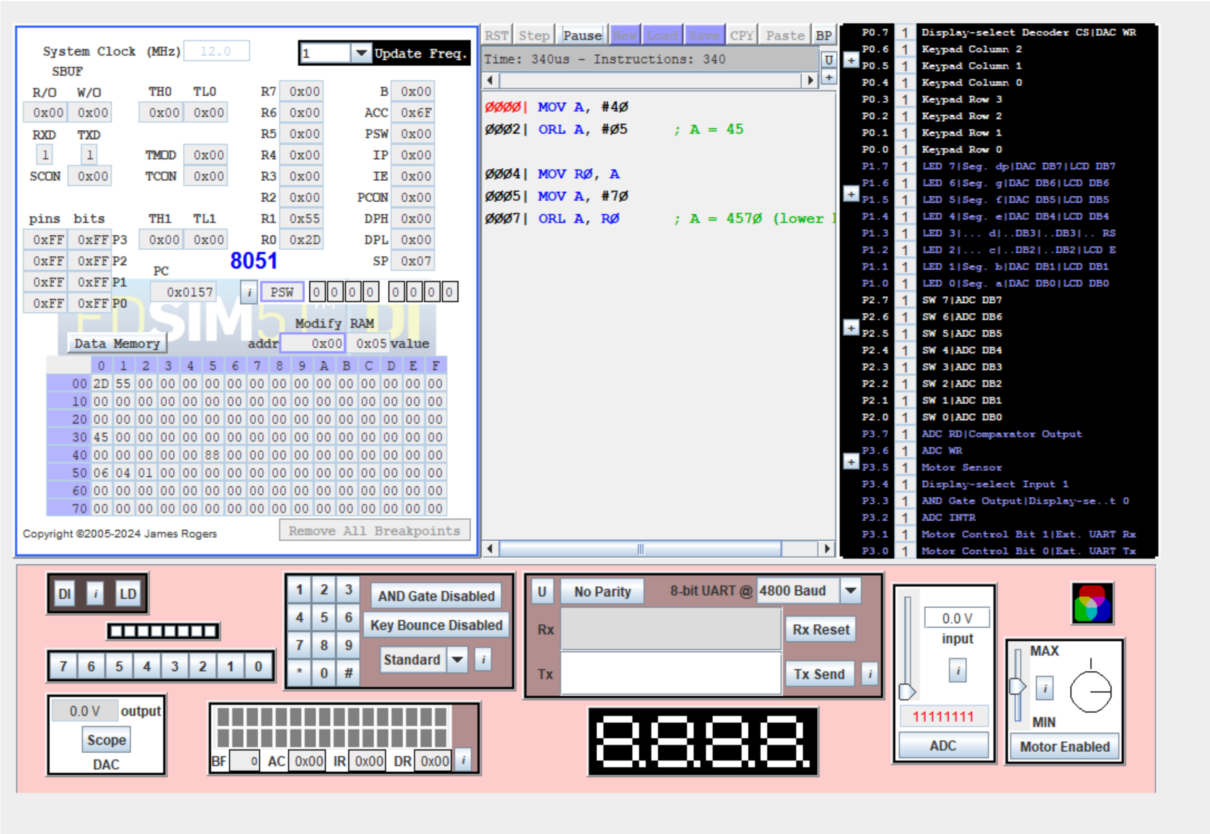


Q.3. A student claims that two assembly programs are equivalent because they access the same RAM address. Using one program with direct addressing and another with indirect addressing, demonstrate why this claim is incorrect by showing a case where both reference the same base address but produce different outputs. Explain how the difference in addressing modes causes this behavior.





Q.4. Write an 8051 Assembly Language Program to generate the last four digits of your mobile number using logical instructions (ANL, ORL, CLR). Do not directly load the complete four-digit number. The final result must be available in the Accumulator (A).



Q.5. Write an 8051 Assembly Language Program to compact data stored in internal RAM locations 40H–5FH using only indirect addressing. Remove all occurrences of FFH, shift the remaining data left to eliminate gaps, and fill the unused locations at the end with 00H, without using additional RAM or the stack.