Shri Vile Parle Kelavani Mandal's
DWARKADAS J. SANGHVI COLLEGE OF ENGINEERING
(Autonomous College Affiliated to the University of Mumbai)
NAAC Accredited with "A" Grade (CGPA : 3.18)

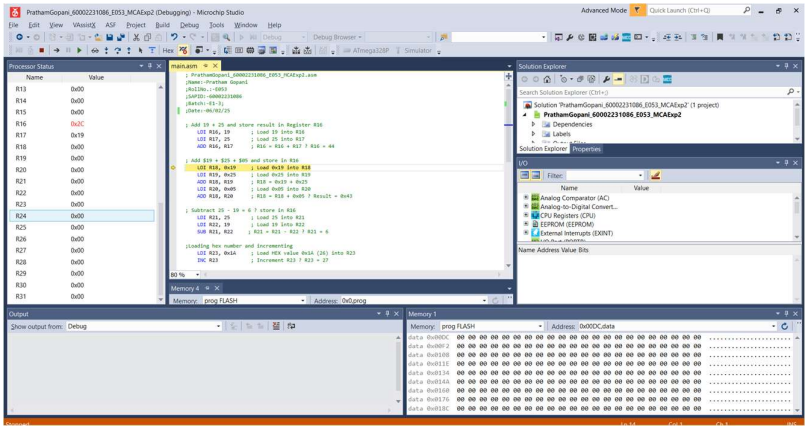
Department of Electronics & Telecommunication Engineering
Experiment No.: TWO

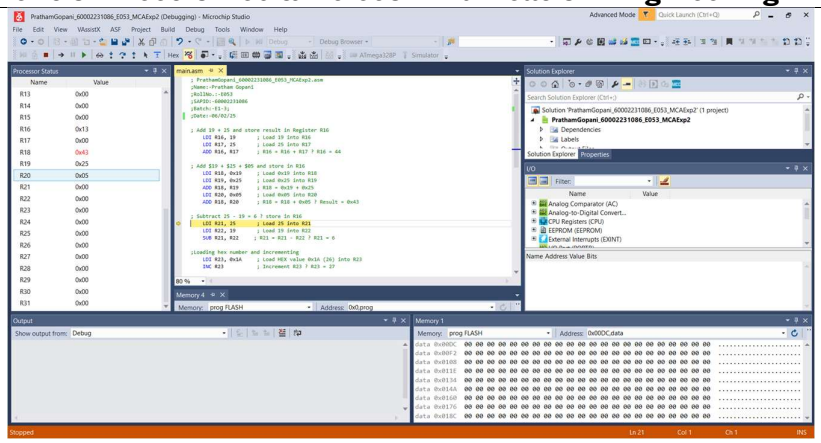
Microcontroller & Applications

Name:- **Roll No:-E082**

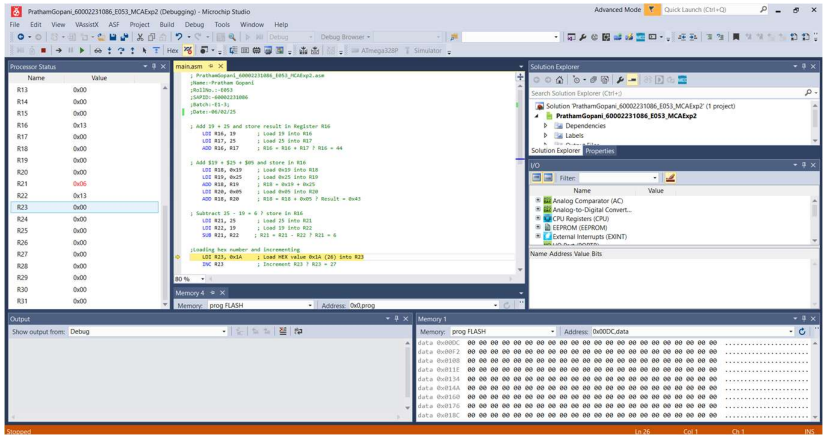
SAPID:-

Batch:-E2-2 **Date:**

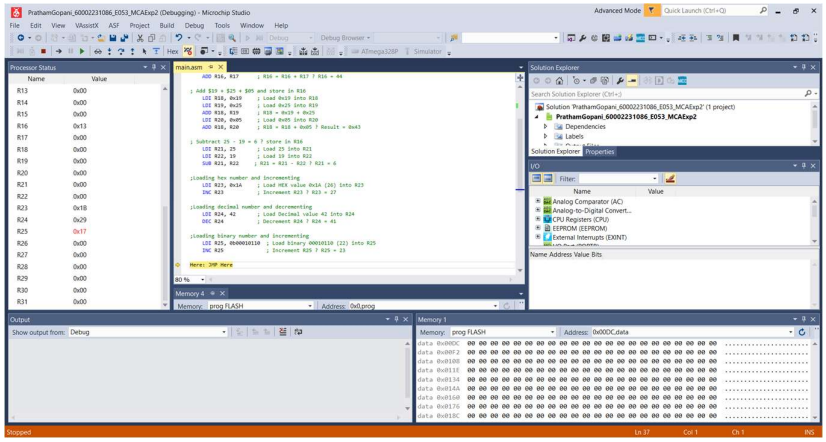
Objective:	Introduction to assembly language programming in simulation environment for AVR's ATmega328P.
Outcome:	Programs that demonstrate the understanding and use of instructions: LDI, ADD, SUB, INC, DEC
Tasks/Problem Statement:	• Write a simple code to add 19 + 25 • Write a simple code to add $19 + $25 + $5 • Write a simple code to subtract two numbers. • Write a simple code to load suitable number in hex, decimal or binary in a destination register, and increment / decrement by 1
Programs, comments, brief explanation and output:	TASK1:-  TASK 2:-



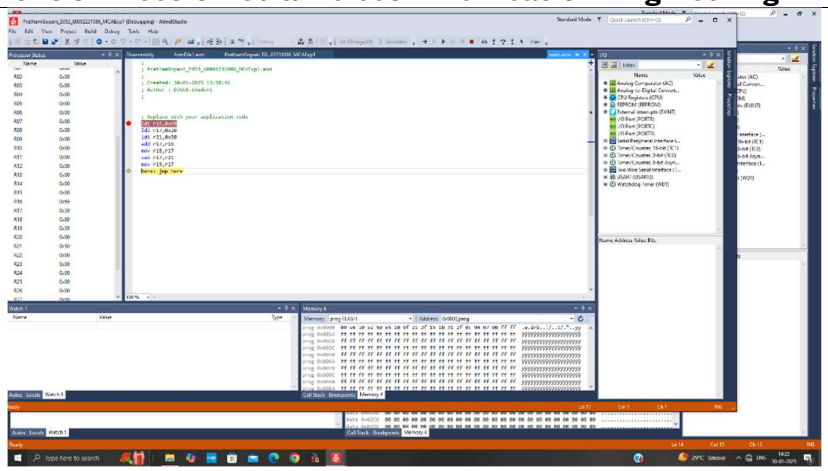
TASK 3:-



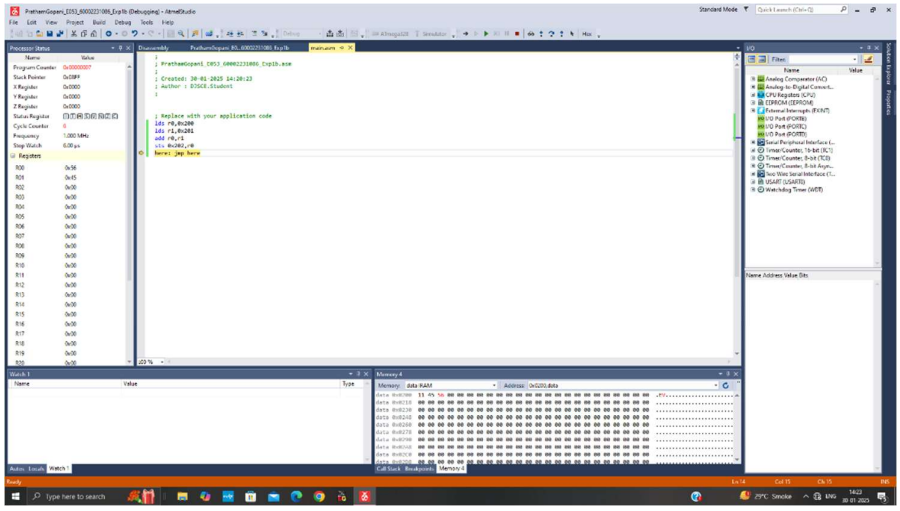
TASK 4:-



1)Write a assembly language program to add 0x69 and 0x20 and store the result in R18, also subtract 0x20 from 0x50 and store result in R19.



2)Write a assembly language program to add data contents of memory location 0x0200 and 0x0201, and store the result in memory location 0x0202.



Attach screen shots of the output

NOTE: *Each code output should display student SAP id as well as Name of student along with date of performance.*

Conclusion:

This experiment successfully introduced the fundamentals of AVR assembly language programming on the ATmega328P by using key instructions like LDI, ADD, SUB, INC, and DEC. Through simple arithmetic tasks, the learner gained hands-on experience in low-level operations and instruction-level control over registers.