

Computer Organization & Architecture Lab

Course Objectives:

- Teach students basic principles about computer architecture, machine language, and low level programming.
- Teach students enough assembly language to enhance their knowledge on today's most widely used microcomputer family.
- Improving students systems programming skills through programming exercises carried out by students.
- Students are expected to implement solutions to problems using the concepts they will take through the course.

Week	Name of the Program
Week 1	1. Introduction to 8086 microprocessor, Architecture of 8086.
Week 2	1. Instruction set of 8086 microprocessor.
Week 3	1. Write an ALP program by using ADD, SUB, MUL, and DIV. 2. Write an ALP program to analyze AAA, AAS. 3. Write an ALP program to check the given input number is odd or even. 4. Write an ALP program to check the given input number is prime or not.
Week 4	1. Write an ALP program to analyze AAM, AAD. 2. Write an ALP program to check the given input number is Armstrong or not. 3. Program to check the given input number is Palindrome or not. 4. Program to check the given input number is positive or negative.
Week 5	1. Write an ALP program to analyze DAA, DAS. 2. Program to check the given input number is perfect or not. 3. Program to convert a given decimal number to binary number. 4. Given n and r, compute and display nCr.
Week 6	1. Program to find the LCM of two numbers by taking input from keyboard. 2. Program to find the GCD of two numbers by taking the input from keyboard 3. Program to find the factorial of a given number. 4. Program to print the Fibonacci series for given input number (EX: Input 5, print 0,1,1,2,3)

Week 7	<ol style="list-style-type: none"> 1. Program to find the square root of given number. 2. Program to find the sum of digits in a given number. 3. Program to find the square and cube of a given number. 4. Write a program to display prime numbers between two given numbers
Week 8	<ol style="list-style-type: none"> 1. Study of TSR.
Week 9	<ol style="list-style-type: none"> 1. Variables of TSRs. 2. Functioning of the Keyboard. 3. How the Printer Works.
Week 10	<ol style="list-style-type: none"> 1. TSR to write-Protect the Hard Disk. 2. Interrupt 0*21 – A Gateway to the DOS Kingdom.
Week 11	<ol style="list-style-type: none"> 1. . A Pop-up calendar. 2. Copying Files Through a TSR.
Week 12	<ol style="list-style-type: none"> 1. A TSR to Display Directory. 2. A Screen Saver TSR.

Course Outcomes:

This course concentrates on the practical part of Computer Organization by using Assembly language. This course allows students to practice writing programs based on the concepts they will learn through the course by giving the students different types of problems to be solved using an emulator.