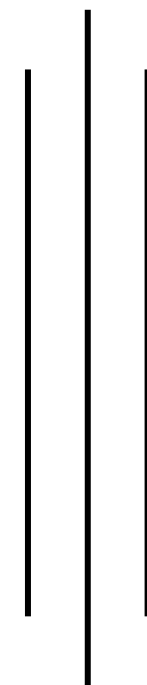# SAGARMATHA ENGINEERING COLLEGE

(TU Affiliated)

Sanepa, Lalitpur

LAB NO: 9

A LAB REPORT ON

INTRODUCTION TO 8086 PROGRAMMING.

Submitted By

Name: ………………………….

Faculty/Year: ……………...……

Roll No.: ………………….

Date: …………………………….

Submitted To

Department of Electronics and Computer Engineering

Signature: ……………………...

Date: ………………………...

Sagarmatha Engineering College

Sanepa, Lalitpur

MICROPROCESSOR LAB-09

TITLE

INTRODUCTION TO 8086 PROGRAMMING

Objective

- ✓ To be familiarize with 8086 programming

Hardware/Software Required

- Computer with internet
- 8086 simulator

MICROPROCESSOR LAB-09

PROGRAM WRITTEN IN CONVENTIONAL FULL SEGMENT DIRECTIVE

Page 60,132

TITLE SUM program to add two numbers

STACK_SEG SEGMENT PARA STACK "*Stack*"

DW 32 DUP(0)

STACK_SEG ENDS

DATA_SEG SEGMENT PARA "*Data*"

NUM1 DW 1111H

NUM2 DW 2222H

SUM DW ?

DATA_SEG ENDS

CODE_SEG SEGMENT PARA "*Code*"

MAIN PROC FAR

ASSUME SS: STACK_SEG, DS: DATA_SEG, CS: CODE_SEG

MOV AX, DATA_SEG

MOV DS, AX

MOV AX, NUM1

ADD AX, NUM2

MOV AX, 4C00H

INT 21H

MAIN ENDP

CODE_SEG ENDS

END

MICROPROCESSOR LAB-09

8086 - SIMPLIFIED SEGMENT DIRECTIVE (BASIC TEMPLATE)

.MODEL SMALL

.STACK 64

.DATA

.CODE

MAIN PROC FAR

MOV AX, @DATA

MOV DS, AX

; Put your code here.

MOV AX, 4C00H

INT 21H

MAIN ENDP

END

TITLE TO DISPLAY A CHARACTER.

Data Segment

CHAR DB 65

Code Segment

MOV DL, CHAR

MOV AH, 02H

INT 21H

TITLE TO READ A CHARACTER.

Code Segment

MOV AH, 01H (*Input will be assigned to AL*)

INT 21H

Problems

1. Write an ALP to read a character from user.
2. Write an ALP to display a character.
3. Write an ALP to read a character from user and display it.
4. Write an ALP to read a character from user and display in upper case.
5. Write an ALP to read a character from user and display in toggled case.

[ASCII: 'A'=65, 'Z'=90, 'a'=97,' z'=122]

MICROPROCESSOR LAB-09

String Input/Output

READ STRING FROM KEYBOARD.

Data Segment

MAXLEN DB 255

ACTLEN DB ?

INPUT DB 255 DUP ('$')

Code Segment

MOV AH, 0AH
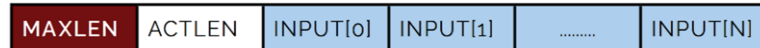
LEA DX, MAXLEN

INT 21H

DISPALY STRING TO MONITOR

Data Segment

STR DB '*Sagarmatha Engineering College*', '$'

Code Segment

MOV AH, 09H

LEA DX, STR

INT 21H

MAXLEN	ACTLEN	INPUT[0]	INPUT[1]	....	INPUT[N]

Problems

1. Display a string constant in a standard display device.

2. Write an ALP to read a string from user and display it.

Result

Hence, All the given instructions are executed and all the results are verified.