

**GUJARAT TECHNOLOGICAL UNIVERSITY**  
**COMPUTER ENGINEERING**

DATA STRUCTURES  
**SUBJECT CODE: 2130702**

B.E. 3<sup>rd</sup> Semester  
Practical List1

1.	Write a program to print “hello world”
2.	Write a program to take two input variable from user and swap that values.
3.	Write a program that computes x raised to the power y.
4.	Perform program no. 2 and 3 using function.
5.	Write a calculator program(add,subtract,multiply,divide). Prepare user defined function for each functionality.
6.	Write a program to find the maximum value from given array.
7.	Perform program no.6 using function.
8.	Implement a program for ARRAY that performs following operations using function. (a) INSERT (b) DELETE (c) DISPLAY (d) SEARCH
9.	Define a structure called STUDENT that would contain name, roll_no and marks of three subjects m1,m2,m3. Using this structure, write a program to read this information for one student from the key board and print the same on the screen.
10.	Write a program to enter information (name, rollno, marks of three subjects m1, m2 and m3) of N number of students. Marks entered is out of 70. Create following functions : 1. void result() : To display result of each student (Pass/Fail) [passing marks is 23] 2. void result_rollno(int x) : To display result of student whose rollno is equal to x. 3. void result_name(char y[]) : To display result of student whose name is equal to y. 4. void high_per() : To display information of student who secures highest percentage. 1. void display(struct student s1) : To display information of student s1
11.	For the above structure of student, design a program to enter information of N number of students and then create following functions:  1. void search1(struct student[], int n, int x) : To search student whose rollno=x and to display information within the function only. Whole array of student information and number of students are passed as argument. 2. struct student search2(struct student[], int n, int x): To search student whose rollno=x and to return that particular record to the calling function. Then calling function will display information of this student. Whole array of student information and number of students are passed as argument. 3. struct student* search3(struct student[], int n, int x): To search student whose rollno=x and to return pointer to that particular record to the calling function. Then calling function will display information of this student. Whole array of student information and number of students are passed as argument. 4. void sort(struct student[], int n) : To sort entire list of student in ascending order as per roll number.

