



Question - 1

Display information of Student

Display the information of *i*th student in class. Student information must include the roll_no,name,course and fees of the student.

Constraints: $1 \leq n \leq 5$ where n is number of students in class.

$0 \leq i \leq 4$

Sample Input 1:

```
2          // n i.e. number of students in class
```

```
1          // i
```

```
/*Information of first student
```

```
02         //roll_no
```

```
aditya     //name
```

```
MCA        //course
```

```
10000
```

```
/*Information of second student
```

```
03         //roll_no
```

```
ram        //name
```

```
BE         //course
```

```
70000
```

Sample Output:

```
03
```

```
ram
```

```
BE
```

```
70000
```

Question - 2

HEIGHT MENU

Write a program to read,display,add and subtract two heights.

Heights should be given in feet and inches.

Height Menu should be as following:

1. Display

2. Add Height

3. Subtract Heights

Sample Input:

```
1          //Choice
```

```
2 3        //height 1
```

```
4 5        //height 2
```

Sample Output:

```
2 3
```

```
4 5
```

Sample Input 2:

```
2
```

```
2 3
```

```
4 5
```

Sample Output 2:

```
6 8
```

Question - 3

structure

Design the solution for the problem for Rohan, to calculate the difference between heights of two given roll number of student of a class.

Height is mentioned in feet and inches.

Sample Input:

3

1

5

7

2

6

0

3

5

4

1

3

Explanation: Sample input first accepts the size of class or number of student in a class and then accepts three input for each student of class.

first number represents roll number of student

second number represents height in feet

Third number represents height in inch

After that it accepts two more inputs that represents roll numbers of student, to find the difference between height of those students.

Sample Output:

0

3

Explanation: Sample output shows difference of two roll number i.e 1 and 3 in feet and inches separately. i.e. 0 feet and 3 inches.

Question - 4 structure and array

write a program to help a teacher to find the student who score maximum and minimum marks in a exam.

Sample Input:

5

1100

A

87

1101

B

32

1102

C

98

1103

D

65

1104

E

22

Explanation: In sample input first number represent the number of student in class. and then it accepts three input more for each student.

First input represents the roll number of the student.

Second input represents the name of the student.

Third input represents the marks of the student.

Sample Output:

1102

C

98
1104
E
22

Explanation: Sample output include six input for two student.
One student who score maximum marks with details that include its roll number, name and marks and one student who score minimum marks with details that include its roll number, name and marks.

Question - 5 Recursion

The power of a number is the number multiplied to itself for the number of times it has been raised to Eg: 7^3 is 343

Input: 7
3

Output: 343

Input: First line inputs a number and in second line gives the power of that number

Question - 6 Complete the following program to add and subtract two distances using Structures and functions.

Complete the following program to describe a Structure 'DISTANCE' that has two parameters kms and meters of integer type. Describe two functions add_distance and subtract_distance.
add_distance function takes 2 arguments of type DISTANCE and return the sum of distances in DISTANCE object.
subtract_distance function takes 2 arguments of type DISTANCE and return the difference of distances in DISTANCE object.

Input: Take 2 line input for in DISTANCE objects d1 and d2.
Each line takes two inputs: Kms and meters separated by space.
Output: First line gives the sum of distance where kms and meters are separated by space.
Second line shows the difference of distance where kms and meters are separated by space.

For example:

Input:
1000 200
600 200
Output:
1600 400
400 0

Input:
500 600
400 500
Output:
901 100
100 100

Question - 7 Subtract two TIME periods

Program to subtract two time periods
20 30 40 // (start time:20 hr 30 min 40 seconds)
10 20 26 // (stop time:10 hr 20 min 26 seconds)

Also if seconds of stop time exceeds than seconds of start time
then subtract 1 from minutes of start time and add 60 to
seconds of start time
Also if minutes of stop time exceeds than minutes of start time
then subtract 1 from hours of start time and add 60 to minutes
of start time

Sample input 1:
20 30 40 // (start time:20 hr 30 min 40 seconds)
10 20 26 // (stop time:10 hr 20 min 26 seconds)
Sample output 1:
10 10 14 //(10 hr 10 min 14 seconds)

Sample input 2:
11 35 44
07 42 36
Sample output 2:
3 53 8

Question - 8
Add complex number

Add Two Complex Numbers using structure and function

Explanation:-

In this program, structures n1 and n2 are passed as an argument of function `add()`.
This function computes the sum and returns the structure variable temp to the `main()` function.

Question - 9
dynamic memory allocation

C Program to Store Information Using

Structures with Dynamically Memory

Allocation

Explanation:-

This program asks user to store the value of noOfRecords and allocates the memory for the noOfRecords structure variable dynamically using `malloc()` function.

Question - 10
difference between two time period

C Program to Calculate Difference Between

Two Time Periods using structure and

function

Explanation:-

In this program, user is asked to enter two time periods and these two periods are stored in structure variables `startTime` and `stopTime` respectively.

Then, the function `differenceBetweenTimePeriod` calculates the difference between the time periods and the result is displayed in `main()` function without returning it (Using call by reference technique).

Question - 11

minium and maximum in array

C program to find maximum and minimum

elements in array using recursion