

156 lines (126 loc) · 5.44 KB

Preview

Code

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# Structure

1. Write a program to store and print the roll no., name , age and marks of a student using structures.

## Test Data

```
Enter 'Roll Number', 'Name' and 'Marks' of 5 students:
Student 1: 1 Parth 90
Student 2: 2 Mehak 94
Student 3: 3 Arpit 95
Student 4: 4 Karthik 96
Student 5: 5 Bhavya 80
```

## Expected Output

```
Student details:
Roll Number      Name      Marks
1                Parth     90
2                Mehak     94
3                Arpit     95
4                Karthik    96
5                Bhavya     80
```

## Source Code

```
#include <stdio.h>

struct student {
    int rollNo;
    char name[30];
    int marks;
};

void inputData(struct student students[], int length){
    printf("\nEnter 'Roll Number', 'Name' and 'Marks' of 5 students: ");
    for(int i = 0; i < length; i++){
        printf("\nStudent %d: ", i+1);
        scanf("%d%s%d", &students[i].rollNo, &students[i].name,
            &students[i].marks);
    }
}
```

```

    }
}
void printData(struct student students[], int length){
    printf("\n\tStudent details: ");
    printf("\n\t\tRoll Number\t\tName\t\tMarks");
    for(int i = 0; i < length; i++){
        printf("\n\t\t%d\t\t\t%s\t\t%d", students[i].rollNo,
            students[i].name, students[i].marks);
    }
}
int main(){
    struct student students[5];
    int length = 5;

    inputData(students, length);
    printData(students, length);
    return 0;
}

```

2. Enter the marks of 5 students in Chemistry, Mathematics and Physics (each out of 100) using a structure named Marks having elements roll no., name, chem\_marks, maths\_marks and phy\_marks and then display the percentage of each student.

#### Test Data

Enter Roll Number, Name, Chemistry, Math, Physics of 5 Students:

Student 1: 1 Parth 90 92 89  
 Student 2: 2 Mehak 92 94 86  
 Student 3: 3 Arpit 96 94 92  
 Student 4: 4 Karthik 92 95 90  
 Student 5: 5 Bhavya 90 89 92

#### Expected Output

Roll Number	Name	Chemistry	Math	Physics	Total	Percentage
1	Parth	90	92	89	271	90.33%
2	Mehak	92	94	86	272	90.67%
3	Arpit	96	94	92	282	94.00%
4	Karthik	92	95	90	277	92.33%
5	Bhavya	90	89	92	271	90.33%

#### Source Code

```

#include <stdio.h>

struct student{
    int roll;
    char name[30];
    int chem_marks, maths_marks, phy_marks;
};

void inputData(struct student students[], int length){
    int i;

```

```

printf("\nEnter Roll Number, Name, Chemistry, Math, Physics of 5 Students:\n");
for(i = 0; i < length; i++){
    printf("\nStudent %d: ", i+1);
    scanf("%d%s%d%d%d", &students[i].roll, &students[i].name,
        &students[i].chem_marks, &students[i].maths_marks,
        &students[i].phy_marks);
}
}
void printData(struct student students[], int length){
    int i, total;
    float per;
    printf("\n\tRoll Number\tName\t\tChemistry\tMath\t\tPhysics\t\tTotal\t\tPercentage\n");
    for(i = 0; i < length; i++){
        total = students[i].chem_marks + students[i].maths_marks + students[i].phy_marks;
        per = total / 300.0 * 100;
        printf("\n\t%d\t\t%s\t\t%d\t\t%d\t\t%d\t\t%d\t\t%.2f%%\n", students[i].roll, stud
students[i].chem_marks, students[i].maths_marks,
students[i].phy_marks, total, per);
    }
}
int main(){
    struct student students[5];
    int length = 5;

    inputData(students, length);
    printData(students, length);
    return 0;
}

```

# Hi 🙋, I'm Rajiv Kumar

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