```c
/*
 * EX_1.c
 *
 *  Created on: Sep 20, 2021
 *      Author: Sarah
 */

#include <stdio.h>

struct student{
    char name[20];
    int roll;
    float marks;
};


int main(){
    setvbuf(stdout, NULL, _IONBF, 0);
    setvbuf(stderr, NULL, _IONBF, 0);
    struct student S1;
    printf("Enter information of students: \n");
    printf("Enter name: ");
    scanf("%s", S1.name);
    printf("Enter roll number: ");
    scanf("%d", &S1.roll);
    printf("Enter marks: ");
    scanf("%f", &S1.marks);
    printf("\nDisplaying information\n");
    printf("Name: %s\n", S1.name);
    printf("Roll: %d\n", S1.roll);
    printf("Marks: %.2f\n", S1.marks);
    return 0;
}

```

```
<terminated> (exit value: 0) EX_1.exe [C/C++ Application]
Enter information of students:
Enter name: Adele
Enter roll number: 21
Enter marks: 334.5

Displaying information
Name: Adele
Roll: 21
Marks: 334.50
```

```c
/*
 * EX_2.c
 *
 *  Created on: Sep 20, 2021
 *      Author: Sarah
 */

#include <stdio.h>

struct distance{
    int feet;
    float inch;
};


int main(){
    setvbuf(stdout, NULL, _IONBF, 0);
    setvbuf(stderr, NULL, _IONBF, 0);
    struct distance d1, d2, sum;
    printf("Enter information of 1st distance \n");
    printf("Enter feet: ");
    scanf("%d", &d1.feet);
    printf("Enter inch: ");
    scanf("%f", &d1.inch);
    printf("\nEnter information of 2nd distance \n");
    printf("Enter feet: ");
    scanf("%d", &d2.feet);
    printf("Enter inch: ");
    scanf("%f", &d2.inch);
    sum.feet = d1.feet + d2.feet;
    sum.inch = d1.inch + d2.inch;
    while(sum.inch >= 12.0){
        sum.inch -= 12.0;
        sum.feet++;
    }
    printf("\nSum of distances = %d\'-%.1f\"", sum.feet, sum.inch);

    return 0;
}

```

```
<terminated> (exit value: 0) EX_2.exe [C/C++ Applicati
Enter information of 1st distance
Enter feet: 12
Enter inch: 3.45

Enter information of 2nd distance
Enter feet: 12
Enter inch: 9.2

Sum of distances = 25'-0.6"
```

```c
/*
 * EX_3.c
 *
 *  Created on: Sep 20, 2021
 *      Author: Sarah
 */

#include <stdio.h>

struct complex{
    float real;
    float img;
};


int main(){
    setvbuf(stdout, NULL, _IONBF, 0);
    setvbuf(stderr, NULL, _IONBF, 0);

    struct complex num1, num2, sum;

    printf("For 1st complex number\n");
    printf("Enter real and imaginary respectively: ");
    scanf("%f%f", &num1.real, &num1.img);

    printf("\nFor 2nd complex number\n");
    printf("Enter real and imaginary respectively: ");
    scanf("%f%f", &num2.real, &num2.img);

    sum.real = num1.real + num2.real;
    sum.img = num1.img + num2.img;
    printf("Sum = %.1f + %.1fi", sum.real, sum.img);
    return 0;
}

```

```
<terminated> (exit value: 0) EX_3.exe [C/C++ Application] E:\Onlin
For 1st complex number
Enter real and imaginary respectively: 2.3 4.5

For 2nd complex number
Enter real and imaginary respectively: 3.4 5
Sum = 5.7 + 9.5i
```

```c
/*
 * EX_4.c
 *
 *  Created on: Sep 20, 2021
 *      Author: Sarah
 */

#include <stdio.h>

struct student{
    char name[20];
    int roll;
    float marks;
};


int main(){
    setvbuf(stdout, NULL, _IONBF, 0);
    setvbuf(stderr, NULL, _IONBF, 0);

    struct student S[10];

    printf("Enter information of students: \n");
    for(int i = 0; i < 10; i++){
        printf("\nFor roll number %d\n", i + 1);
        printf("Enter name: ");
        scanf("%s", S[i].name);
        printf("Enter marks: ");
        scanf("%f", &S[i].marks);
    }

    printf("\nDisplaying information of students:\n");
    for(int i = 0; i < 10; i++){
        printf("Information for roll number %d\n", i + 1);
        printf("Name: %s\n", S[i].name);
        printf("Marks: %f\n", S[i].marks);

    }

    return 0;
```

Output:

```
Enter information of students:

For roll number 1
Enter name: Tom
Enter marks: 98

For roll number 2
Enter name: Jerry
Enter marks: 89

For roll number 3
```

```
Enter name: Adele
Enter marks: 58

For roll number 4
Enter name: Sarah
Enter marks: 78

For roll number 5
Enter name: Farah
Enter marks: 89

For roll number 6
Enter name: Aya
Enter marks: 78

For roll number 7
Enter name: Ahmed
Enter marks: 89

For roll number 8
Enter name: Bassant
Enter marks: 98

For roll number 9
Enter name: Alaa
Enter marks: 56

For roll number 10
Enter name: Ashraf
Enter marks: 87

Displaying information of students:
Information for roll number 1
Name: Tom
Marks: 98.000000
Information for roll number 2
Name: Jerry
Marks: 89.000000
Information for roll number 3
Name: Adele
Marks: 58.000000
Information for roll number 4
Name: Sarah
Marks: 78.000000
Information for roll number 5
Name: Farah
Marks: 89.000000
Information for roll number 6
Name: Aya
Marks: 78.000000
Information for roll number 7
Name: Ahmed
Marks: 89.000000
Information for roll number 8
Name: Bassant
```

```
Marks: 98.000000
Information for roll number 9
Name: Alaa
Marks: 56.000000
Information for roll number 10
Name: Ashraf
Marks: 87.000000
```

```c
/*
 * EX_5.c
 *
 *  Created on: Sep 20, 2021
 *      Author: Sarah
 */

#include <stdio.h>

#define PI 3.14159
#define AREA(radius)(PI * radius * radius)


int main(){
    setvbuf(stdout, NULL, _IONBF, 0);
    setvbuf(stderr, NULL, _IONBF, 0);
    int radius;
    printf("Enter the radius: ");
    scanf("%d", &radius);
    printf("Area = %.2f", AREA(radius));
    return 0;
}

```

```
<terminated> (exit value: 0) EX_5.exe
Enter the radius: 3
Area = 28.27
```

```c
/*
 * EX_6.c
 *
 *  Created on: Sep 20, 2021
 *      Author: Sarah
 */

#include <stdio.h>

union job{
    char name[32];
    float salary;
    int worker_no;
}u;
struct job1{
    char name[32];
    float salary;
    int worker_no;
}s;


int main(){
    printf("size of union=%d", sizeof(u));
    printf("\nsize of structure=%d", sizeof(s));
    return 0;
}

```

```
<terminated> EX_6.exe [C/C++ Application]
size of union=32
size of structure=40
```