EX1:

```
#include <stdio.h>
#include <math.h>
#include <string.h>

struct student
{
   char name[100];
   int roll;
   float marks;
}s1;
int main()
{

   printf("enter student information\n");
   printf("enter name: ");
   scanf("%s",s1.name);
   printf("enter roll: ");
   scanf("%d",&s1.roll);
   printf("enter marks: ");
   scanf("%f",&s1.marks);

   printf("name: %s\n",s1.name);
   printf("roll: %d\n",s1.roll);
   printf("marks: %f\n",s1.marks);

   return 0;
}
```

EX2:

```
#include <stdio.h>
#include <math.h>
#include <string.h>

struct USnum
{
```

```
    float feet;
    float inches;
};
int main()
{
    struct USnum num1,num2,sum;

    printf("enter information of first distance:\n");
    printf("feet: ");
    scanf("%f",&num1.feet);
    printf("inches: ");
    scanf("%f",&num1.inches);
    printf("enter information of second distance:\n");
    printf("feet: ");
    scanf("%f",&num2.feet);
    printf("inches: ");
    scanf("%f",&num2.inches);

    sum.feet = num1.feet + num2.feet + ((int)(num1.inches + num2.inches)/12);
    sum.inches = ((int)(num1.inches + num2.inches)%12)+((num1.inches +
num2.inches)-(int)((num1.inches + num2.inches)));

    printf("sum: %.1f' %.1f\"",sum.feet,sum.inches);
    return 0;
}
```

EX3:

```
#include <stdio.h>
#include <math.h>
#include <string.h>

struct comp
{
    float real;
    float imaginary;
};
int main()
```

```
{
   struct comp num1,num2,sum;

   printf("enter the real and imaginary part of the 1st number respectively: ");
   scanf("%f",&num1.real);
   scanf("%f",&num1.imaginary);
   printf("enter the real and imaginary part of the 2nd number respectively: ");
   scanf("%f",&num2.real);
   scanf("%f",&num2.imaginary);

   sum.real = num1.real + num2.real;
   sum.imaginary = num1.imaginary + num2.imaginary;

   printf("sum: %.1f + %.1fi",sum.real,sum.imaginary);
   return 0;
}
```

EX4:

```
#include <stdio.h>
#include <math.h>
#include <string.h>
#define student_num 3
struct student
{
   char name[100];
   int roll;
   float marks;
}database[10];

int main()
{
   int i;

   printf("enter students information\n\n");
   for(i=0 ; i<student_num ;i++)
   {
      printf("Student number %d:\n",i+1);
```

```
        printf("enter name: ");
        scanf("%s",database[i].name);
        printf("enter roll: ");
        scanf("%d",&database[i].roll);
        printf("enter marks: ");
        scanf("%f",&database[i].marks);
        printf("\n");
    }
    printf("\n");
    for(i=0 ; i<student_num ;i++)
    {
        printf("Student number %d:\n",i+1);
        printf("name: %s\n",database[i].name);
        printf("roll: %d\n",database[i].roll);
        printf("marks: %.1f\n",database[i].marks);
        printf("\n");
    }
    return 0;
}
```

EX5:

```
#include <stdio.h>
#include <math.h>
#include <string.h>
#define area(r) (3.14 *r*r)
struct student
{
    char name[100];
    int roll;
    float marks;
}database[10];

int main()
{
    int r;
    printf("enter the radius:  ");
    scanf("%d", &r);
```

```
    printf("%f", area(r));
    return 0;
}
```

EX6:
Output is:

Size of union = 32;
Size of structure = 40;