Question 1
Source Code

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

struct meal{
	char name[30];
	float calories;
	char type[20];
	int costs;
};
int main(){
	struct meal record[4];
	for (int i = 0; i<4; ++i){
		//user input

		printf("%d type of food:\n",i+1);
		printf("Enter the name of the food: \n");
		scanf("%s", record[i].name);
		//calories of food
		printf("Enter the calories: \n");
		scanf("%f", &record[i].calories);
		//type of food
		printf("Enter the type of food like meat or fruit: \n");
		scanf("%s", record[i].type);
		//The total cost of food
		printf("cost of the food: \n");
		scanf("%d", &record[i].costs);
		printf("\n");
	}
	for (int i = 0; i < 4; ++i){
		printf("Name of the food : %s\n",record[i].name);
		printf("Calories of the food : %f\n",record[i].calories);
		printf("Type of the food : %s\n",record[i].type);
		printf("Cost of the food : %d\n",record[i].costs);
		printf("\n");
	}
return 0;
}
```

Output

```
sonam@sonam-HP-Laptop-14q-cs0xxx:~/Desktop/ITP203/lab/lab9$ gcc q1.c
sonam@sonam-HP-Laptop-14q-cs0xxx:~/Desktop/ITP203/lab/lab9$  ./a.out
1 type of food:
Enter the name of the food:
firstfood
Enter the calories:
56.0
Enter the type of food like meat or fruit:
momo
cost of the food:
30

2 type of food:
Enter the name of the food:
tea
Enter the calories:
67
Enter the type of food like meat or fruit:
bisuit
cost of the food:
50

3 type of food:
Enter the name of the food:
pork
Enter the calories:
78
Enter the type of food like meat or fruit:
friedrice
cost of the food:
400

4 type of food:
Enter the name of the food:
momo
Enter the calories:
67
Enter the type of food like meat or fruit:
```

Question 2

Source Code

```
#include <stdio.h>
#include <string.h>
#include<stdlib.h>
struct library{
	char title[20];
	char name[20];
	int price;
	char status[10];
};
int main(){
	struct library record[50];
	int option;
	int n;
	char topic[20];
	char author[20];
	printf("\n");
	do{
		printf("Select any option from below \n");
		printf("1. Adding the book \n");
		printf("2. Displaying the book \n");
		printf("3. Listing book of specific author \n");
		printf("4. List the title of the specific book \n");
		printf("5. List count of the book \n");
		printf("6. Exit \n");
		printf("Enter you choice: \n");
```

```
scanf("%d", &option);
switch(option){
case 1:
printf("How many books you want to add \n");
scanf("%d", &n);
for(int i = 0; i<n; i++){
        printf("Enter the title of the book :\n");
        scanf("%s", record[i].title);
        printf("Enter the name of the author: \n");
        scanf("%s", record[i].name);
        printf("Enter the price of the book: \n");
        scanf("%d", &record[i].price);
        printf("Enter the status of the book: \n");
        scanf("%s", record[i].status);
        printf("\n");
        printf("------Book are successfully added------\n");
        printf("\n");
}
break;printf("\n");
case 2:
if(n==0){
        printf("The library is empty\n");
}
else{
        for (int i = 0; i < n; i++){
                printf("Title of the book : %s\n",record[i].title);
                printf("Name of the book : %s\n",record[i].name);
                printf("Price of the book: %d\n",record[i].price);
                printf("Status of the book : %s\n",record[i].status);
                printf("\n");
        }
}
printf("\n");
break;
printf("\n");
case 3:
        printf("Enter the name of the author: ");
        scanf("%s", author);
        for(int i=0; i<n; i++){
                if(strcmp (record[i].name, author) == 0){
                printf("%s\n", record[i].title );
        }
}
break;
printf("\n");
case 4:
printf("\n");
printf("Enter the title of the book:\n");
scanf("%s", topic);
printf("Details of the book\n");
for (int i = 0; i < n; ++i){
        if(strcmp(record[i].title, topic)==0){
```

```
                                printf("Author name : %s\n",record[i].name );
                                printf("Price of the book : %d\n",record[i].price);
                                printf("Status of the book : %s\n",record[i].status );
                        }
                }
                printf("\n");
                break;
                printf("\n");
                case 5:
                printf("The number of the book is : %d\n",n );
                printf("\n");
                break;
                case 6:
                exit(0);
                default:
                printf("Invalid");
        }
}
while(option != 6);
return 0;
}
```

Output

```
sonam@sonam-HP-Laptop-14q-cs0xxx:~/Desktop/ITP203/lab/lab9$ gcc q2.c
sonam@sonam-HP-Laptop-14q-cs0xxx:~/Desktop/ITP203/lab/lab9$  ./a.out

Select any option from below
1. Adding the book
2. Displaying the book
3. Listing book of specific author
4. List the title of the specific book
5. List count of the book
6. Exit
Enter you choice:
1
How many books you want to add
2
Enter the title of the book :
database
Enter the name of the author:
john
Enter the price of the book:
400
Enter the status of the book:
issued

------Book are successfully added------

Enter the title of the book :
ACS
Enter the name of the author:
Dorji
Enter the price of the book:
500
Enter the status of the book:
not issued

------Book are successfully added------

Select any option from below
1. Adding the book
2. Displaying the book
```

Question 3
Source Code

```
#include <stdio.h>
struct Hotel
{
   char Name[20];
   char Address[20];
   int Grade;
   float Room_Charges;
   int Rooms;
};

int main()
{
   int i, ch, grade, Price, n = 2;
   struct Hotel H[20];

   printf("Enter %d Numbers Of Hotels: \n", n);

   for (i = 0; i < n; ++i)
   {
      printf("\nRecord Number %d : \n", i+1);

      printf("Hotel Name: ");
      scanf("%s", H[i].Name);
      printf("Hotel Address: ");
      scanf("%s", H[i].Address);
      printf("Hotel Grade: ");
      scanf("%d", &H[i].Grade);
      printf("Hotel Room Charges: ");
      scanf("%f", &H[i].Room_Charges);
      printf("Hotal Number Of Room(s): ");
      scanf("%d", &H[i].Rooms);
   }

   do
   {
      printf("\n\tMenu Of A Hotel\n\n");
      printf("1. Print Out Hotels Of A Given Grade In Order Of Charges.\n");
      printf("2. Print Out Hotels With Room Charges Less Than A Given Values.\n");

      printf("Enter Your Choice 1-2: ");
      scanf("%d", &ch);

      switch(ch)
      {
         case 1:
            printf("Enter Grade 1 To 5: ");
            scanf("%d", &grade);

            for (i = 0; i < n; ++i)
            {
```

```
            if(H[i].Grade == grade)
            {
               printf("\nHotel Name: %s", H[i].Name);
               printf("\nHotel Grade: %d", H[i].Grade);
               printf("\nHotal Room Charges: %f", H[i].Room_Charges);
               printf("\n");
            }
         }
         break;

      case 2:
         printf("Enter The Room Charges Of Your Choice: ");
         scanf("%d", &Price);

         printf("The Room Charges Less Than Your Choice: \n");

         for (i = 0; i < n; ++i)
         {
            if(H[i].Room_Charges < Price)
            {
               printf("\nHotel Name: %s", H[i].Name);
               printf("\nHotel Grade: %d", H[i].Grade);
               printf("\nHotel Address: %s", H[i].Address);
               printf("\nHotal Room Charges: %f", H[i].Room_Charges);
               printf("\n");
            }
         }
         break;

    }
  }while(ch != 2);

  return 0;
}
```

OUTPUT

```
sonam@sonam-HP-Laptop-14q-cs0xxx:~/Desktop$ gcc A9Q2.c
sonam@sonam-HP-Laptop-14q-cs0xxx:~/Desktop$ ./a.out
Enter 2 Numbers Of Hotels:

Record Number 1 :
Hotel Name: TashigangHotel
Hotel Address: gyalpozhing
Hotel Grade: 3
Hotel Room Charges: 1000
Hotal Number Of Room(s): 25

Record Number 2 :
Hotel Name: Menjong
Hotel Address: SamdrupJongkhar
Hotel Grade: 4
Hotel Room Charges: 1500
Hotal Number Of Room(s): 30

        Menu Of A Hotel
```

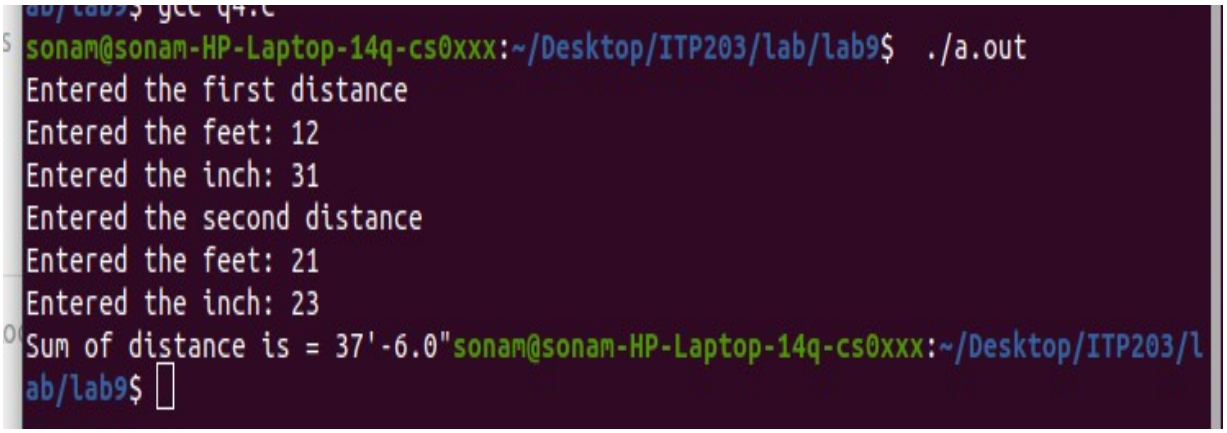
```
Hotal Room Charges: 1000.000000

        Menu Of A Hotel

1. Print Out Hotels Of A Given Grade In Order Of Charges.
2. Print Out Hotels With Room Charges Less Than A Given Values.
Enter Your Choice 1-2: 2
Enter The Room Charges Of Your Choice: 1500
The Room Charges Less Than Your Choice:

Hotel Name: TashigangHotel
Hotel Grade: 3
Hotel Address: gyalpozhing
Hotal Room Charges: 1000.000000
sonam@sonam-HP-Laptop-14q-cs0xxx:~/Desktop$
```

Question 4

Source Code

```
#include <stdio.h>

struct Distance{
        int feet;
        float inch;
}d1,d2, outcome;

int main(){
        //take first distance user input
        printf("Entered the first distance\n");
        printf("Entered the feet: ");
        scanf("%d",&d1.feet);
        printf("Entered the inch: ");
        scanf("%f",&d1.inch);

        //take second distance user input
        printf("Entered the second distance\n");
        printf("Entered the feet: ");
        scanf("%d",&d2.feet);
        printf("Entered the inch: ");
        scanf("%f",&d2.inch);

        //adding two distance
        outcome.feet = d1.feet + d2.feet;
        outcome.inch = d1.inch + d2.inch;

        //compute inches to feet if greater than 12
        while(outcome.inch >=12.0){
                outcome.inch = outcome.inch -12.0;
                ++outcome.feet;
        }
        printf("Sum of distance is = %d'-%.1f\"",outcome.feet,outcome.inch);
        return 0;
}
```

Output

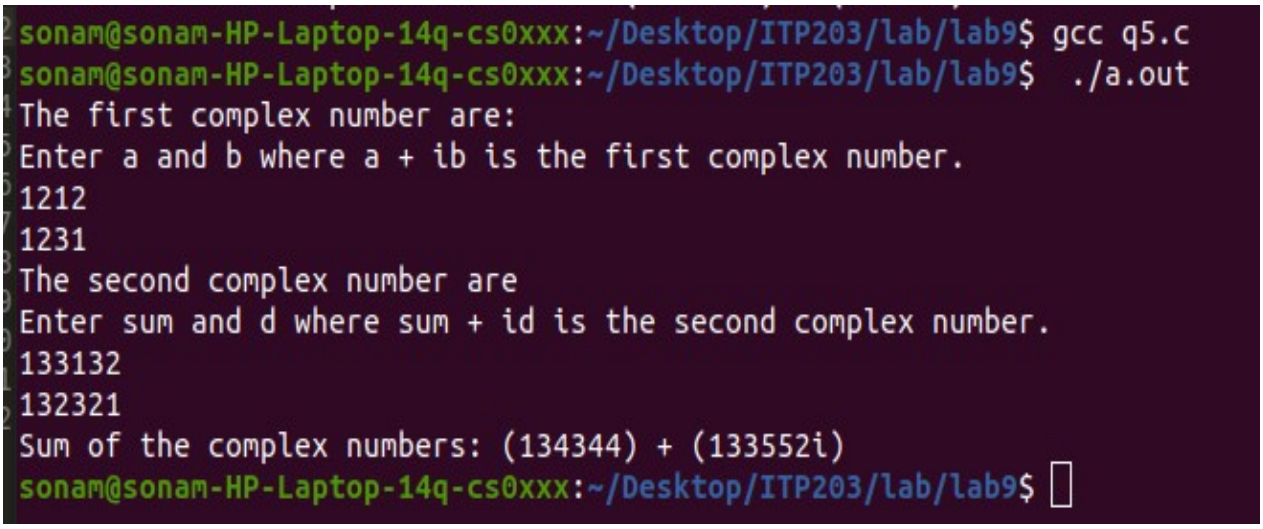


Question 5

Source Code

```
#include <stdio.h>
struct complex{
	int real;
	int img;

};
int main(){
	struct complex a, b, sum;
	printf("The first complex number are:\n");
	printf("Enter a and b where a + ib is the first complex number.\n");
	scanf("%d%d", &a.real, &a.img);
	printf("The second complex number are\n");
	printf("Enter sum and d where sum + id is the second complex number.\n");
	scanf("%d%d", &b.real, &b.img);

	sum.real = a.real + b.real;
	sum.img = a.img + b.img;

	printf("Sum of the complex numbers: (%d) + (%di)\n", sum.real, sum.img);

	return 0;
}
```

Output



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