```
//Q1. Define a structure Employee with member variables id, name, salary


#include<stdio.h>

#include<conio.h>


struct Employee

{

   int id;

   char name[20];

   float salary;

};


int main()

{

   return 0;

}
```

//Q2. Write a function to take input employee data from the user. [Refer structure from question 1]

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

struct Employee
{
   int id;
   char name[20];
   float salary;
};

void input(struct Employee *e1);

int main()
{
   struct Employee e;

   input(&e);

   return 0;
}

void input(struct Employee *e)
{
   printf("Enter Id = ");
```

```
    scanf("%d", &e->id);

    fflush(stdin);

    printf("Enter Name = ");
    fgets(e->name, 20, stdin);

    e->name[strlen(e->name)-1] = '\0';

    printf("Enter Salary = ");
    scanf("%f", &e->salary);
};
```

//Q3. Write a function to display employee data. [Refer structure from question 1]

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

struct Employee
{
   int id;
   char name[30];
   float salary;
};

void input(struct Employee *e1);
void display(struct Employee *e);

int main()
{
   struct Employee e;

   input(&e);
   display(&e);

   return 0;
}

void input(struct Employee *e)
```

```
{
   printf("Enter Id = ");
   scanf("%d", &e->id);

   fflush(stdin);

   printf("Enter Name = ");
   fgets(e->name, 30, stdin);

   e->name[strlen(e->name)-1] = '\0';

   printf("Enter Salary = ");
   scanf("%f", &e->salary);
};

void display(struct Employee *e)
{
   printf("\n\nEmployee Id = %d\n", e->id);
   printf("Employee Name = %s\n", e->name);
   printf("Employee Salary = %.2f\n", e->salary);
}
```

//Q4. Write a function to find the highest salary employee from a given array of 10 employees. [Refer structure from question 1]

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

struct Employee
{
   int id;
   char name[30];
   float salary;
};

void input(struct Employee e[], int size);
void high(struct Employee e[], int size);

int main()
{
   struct Employee e[10];

   input(e, 10);
   high(e, 10);

   return 0;
}

void input(struct Employee e[], int size)
```

```
{
   for(int i = 0; i < size; i++)
   {
      printf("%d) Enter Employee id, name, salary = ", i+1);

      scanf("%d", &e[i].id);

      fflush(stdin);

      fgets(e[i].name, 30, stdin);
      e[i].name[strlen(e[i].name)-1] = '\0';

      scanf("%f", &e[i].salary);
   }
}

void high(struct Employee e[], int size)
{
   int i = 0;

   for(int j = 1; j < size;)
   {
      if(e[i].salary > e[j].salary)
      {
         j++;
      }
      else
```

```
        {
            i = j;
            j++;
        }
    }

    printf("\n\nHighest Salary Employee \n\n");

    printf("Employee Id = %d\n", e[i].id);
    printf("Employee Name = %s\n", e[i].name);
    printf("Employee Salary = %f\n", e[i].salary);
}
```

//Q5. Write a function to sort employees according to their salaries [refer structure from question 1]

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

struct Employee
{
   int id;
   char name[30];
   float salary;
};

void input(struct Employee e[], int size);
void sort_e(struct Employee e[], int size);

int main()
{
   struct Employee e[10];

   input(e, 10);
   sort_e(e, 10);

   return 0;
}

void input(struct Employee e[], int size)
```

```
{
   for(int i = 0; i < size; i++)
   {
      printf("%d) Enter Employee id, name, salary = ", i+1);

      scanf("%d", &e[i].id);

      fflush(stdin);

      fgets(e[i].name, 30, stdin);
      e[i].name[strlen(e[i].name)-1] = '\0';

      scanf("%f", &e[i].salary);
   }
}

void sort_e(struct Employee e[], int size)
{


   for(int i = 0; i < (size-1); i++)
   {
      for(int j = i+1; j < size; j++)
      {
         if(e[i].salary > e[j].salary)
         {
            struct Employee tmp = e[j];
```

```
            e[j] = e[i];
            e[i] = tmp;
          }
        }
    }

    for(int i = 0; i < size; i++)
    {
        printf("Employee Id = %d\n", e[i].id);
        printf("Employee Name = %s\n", e[i].name);
        printf("Employee Salary = %f\n\n", e[i].salary);
    }

}
```

```
//Q6. Write a function to sort employees according to their names [refer structure from question 1]

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

struct Employee
{
   int id;
   char name[30];
   float salary;
};

void input(struct Employee e[], int size);
void sort_e(struct Employee e[], int size);

int main()
{
   struct Employee e[5];

   input(e, 5);
   sort_e(e, 5);

   return 0;
}

void input(struct Employee e[], int size)
```

```
{
   for(int i = 0; i < size; i++)
   {
      printf("%d) Enter Employee id, name, salary = ", i+1);

      scanf("%d", &e[i].id);

      fflush(stdin);

      fgets(e[i].name, 30, stdin);
      e[i].name[strlen(e[i].name)-1] = '\0';

      scanf("%f", &e[i].salary);
   }
}

void sort_e(struct Employee e[], int size)
{


   for(int i = 0; i < (size-1); i++)
   {
      for(int j = i+1; j < size; j++)
      {
         if(1 == strcmp(e[i].name, e[j].name))
         {
            struct Employee tmp = e[j];
```

```
            e[j] = e[i];
            e[i] = tmp;
          }
        }
    }

    for(int i = 0; i < size; i++)
    {
        printf("Employee Id = %d\n", e[i].id);
        printf("Employee Name = %s\n", e[i].name);
        printf("Employee Salary = %f\n\n", e[i].salary);
    }

}
```

```
//Q7. Write a program to calculate the difference between two time periods.

#include<stdio.h>

struct Time
{
   int sec;
   int min;
   int hour;
};

void input(struct Time *t1, struct Time *t2)
{
   printf("Enter Hour for t1 = ");
   scanf("%d", &t1->hour);

   printf("Enter Minut for t1 = ");
   scanf("%d", &t1->min);

   printf("Enter Second for t1 = ");
   scanf("%d", &t1->sec);

   printf("\n\nEnter Hour for t2 = ");
   scanf("%d", &t2->hour);

   printf("Enter Minut for t2 = ");
   scanf("%d", &t2->min);
```

```
    printf("Enter Second for t2 = ");
    scanf("%d", &t2->sec);
}

void time_arrange(struct Time *t1, struct Time *t2)
{
    while(t1->sec >= 60)
    {
        t1->min = t1->min + 1;
        t1->sec = t1->sec - 60;
    }

    while(t1->min >= 60)
    {
        t1->hour = t1->hour + 1;
        t1->min = t1->min - 60;
    }

    while(t2->sec >= 60)
    {
        t2->min = t2->min + 1;
        t2->sec = t2->sec - 60;
    }

    while(t2->min >= 60)
    {
```

```
        t2->hour = t2->hour + 1;
        t2->min = t2->min - 60;
    }
}

void diff(struct Time *t1, struct Time *t2)
{
    printf("\n\nDifference = %d : %d : %d", (t1->hour - t2->hour), (t1->min - t2->min), (t1->sec - t2->sec));
}

void bigger(struct Time *t1, struct Time *t2)
{
    if(t2->hour > t1->hour)
    {
        diff(t2, t1);
    }
    else if(t1->hour > t2->hour)
    {
        diff(t1, t2);
    }
    else if(t2->min > t1->min)
    {
        diff(t2, t1);
    }
    else if(t1->min > t2->min)
    {
        diff(t1, t2);
```

```
    }
     else if(t2->sec > t1->sec)
    {
       diff(t2, t1);
    }
    else if(t1->sec > t2->sec)
    {
       diff(t1, t2);
    }
    else
    {
       diff(t1, t2);
    }
}



int main()
{
   struct Time t1, t2;

   input(&t1, &t2);
   time_arrange(&t1, &t2);
   bigger(&t1, &t2);

   return 0;
}
```

```
//Q8. Write a program to store information of 10 students and display them using structure

#include<stdio.h>

struct Student
{
   char name[30];
   int age;
   int std;
};

int main()
{
   struct Student stu[10];

   for(int i = 0; i < 10; i++)
   {
      printf("Enter Student %d Details\n\n", i+1);

      fflush(stdin);

      printf("Enter student name = ");
      fgets(stu[i].name, 30, stdin);

      printf("Enter student age = ");
      scanf("%d", &stu[i].age);
```

```
        printf("Enter student standard = ");
        scanf("%d", &stu[i].std);

        printf("\n\n");
    }

    printf("\n\n----------Display Student Details----------\n\n");

    for(int i = 0; i < 10; i++)
    {
        printf("Student %d\n\n", i+1);

        printf("Student name = %s", stu[i].name);
        printf("Student age = %d\n", stu[i].age);
        printf("Student standard = %d\n\n", stu[i].std);
    }
}
```

//Q9. Write a program to store information of n students and display them using structure

```
#include<stdio.h>

struct Student
{
   char name[30];
   int age;
   int std;
};

int main()
{
   int n;

   printf("How many student details you want to enter = ");
   scanf("%d", &n);

   struct Student stu[n];

   for(int i = 0; i < n; i++)
   {
      printf("Enter Student %d Details\n\n", i+1);

      fflush(stdin);

      printf("Enter student name = ");
```

```
        fgets(stu[i].name, 30, stdin);

        printf("Enter student age = ");
        scanf("%d", &stu[i].age);

        printf("Enter student standard = ");
        scanf("%d", &stu[i].std);

        printf("\n\n");
    }

    printf("\n\n----------Display Student Details----------\n\n");

    for(int i = 0; i < n; i++)
    {
        printf("Student %d\n\n", i+1);

        printf("Student name = %s", stu[i].name);
        printf("Student age = %d\n", stu[i].age);
        printf("Student standard = %d\n\n", stu[i].std);
    }
}
```

/*Q10. Write a program to 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.*/

```
#include <stdio.h>

#include <string.h>


struct Marks {

	int roll_no;

	char name[20];

	float chem_marks;

	float maths_marks;

	float phy_marks;

};


void input(struct Marks *);

void display(struct Marks *);


int main() {

	struct Marks m1[5];


	int i = 0;


	while (i < 5) {

		input(&m1[i]);

		i++;

	}
```

```
        i = 0;

        while (i < 5) {
                display(&m1[i]);
                i++;
        }

}

void input(struct Marks *m1) {

        fflush(stdin);

        printf("\nEnter name = ");
        fgets(m1->name, 20, stdin);

        printf("Enter Roll no = ");
        scanf("%d", &m1->roll_no);

        printf("Enter Physics marks = ");
        scanf("%f", &m1->phy_marks);

        printf("Enter Chemistry marks = ");
        scanf("%f", &m1->chem_marks);

        printf("Enter Mathematics marks = ");
        scanf("%f", &m1->maths_marks);
```

```
}


void display(struct Marks *m1) {


        printf("\n\nName = %sPercentage = %0.2f", m1->name,

            ((m1->chem_marks + m1->maths_marks + m1->phy_marks ) / 300.0) * 100.0);

}
```