ASSIGNMENT- 21 SOLUTION

1.Define a structure Employee with member variables id, name, salary.

#include <stdio.h>

#include <string.h>

int main()

{

 int i;

  struct employee

  {

    char name[20];

    int id;

    float salary;

  };

 struct employee e[3];

 for(i=0;i<3;i++)

   {

      printf("Enter employee %d name , id and salary:",i+1);

      fflush(stdin);

      fgets(e[i].name,20,stdin);

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

   }

   for(i=0;i<3;i++)

   {

      printf("Employee %d name,idmsalary is:\n",i+1);

      printf("%s, %d, %0.2f\n",e[i].name,e[i].id,e[i].salary);

   }

}

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

#include <stdio.h>

#include <string.h>

int main()

{

 int i;

  struct employee

  {

    char name[20];

    int id;

    float salary;

  };

 struct employee e[3];

 for(i=0;i<3;i++)

   {

      printf("Enter employee %d name , id and salary:",i+1);

      fflush(stdin);

      fgets(e[i].name,20,stdin);

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

   }

   for(i=0;i<3;i++)

   {

      printf("Employee %d name,idmsalary is:\n",i+1);

      printf("%s, %d, %0.2f\n",e[i].name,e[i].id,e[i].salary);

   }

}

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

#include <stdio.h>

#include <string.h>

 struct employee

  {

    char name[20];

    int id;

    float salary;

  };

void display(struct employee e)

{

    printf("%s, %d , %0.2f\n",e.name,e.id,e.salary);

}

int main()

{

 int i;

 struct employee e[3];

 for(i=0;i<3;i++)

   {

      printf("Enter employee %d name , id and salary:",i+1);

      fflush(stdin);

      fgets(e[i].name,20,stdin);

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

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

   }

   for(i=0;i<3;i++)

      display(e[i]);

}

4. 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 <string.h>

struct employee

{

   char name[20];

   int id;

   float salary;

};

int main()

{

   int i;

   float high;

   struct employee e[10];

   for (i = 0; i < 10; i++)

   {

      printf("Enter employee %d name , id and salary:", i + 1);

      fflush(stdin);

      fgets(e[i].name, 20, stdin);

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

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

   }

   high=e[0].salary;

   for(i=0;i<10;i++)

   {

     if(e[i].salary>high)

      high=e[i].salary;

   }

   for(i=0;i<10;i++)

    if(high==e[i].salary)

     printf("Highest salary employ is %s, %d, %f",e[i].name, e[i].id, e[i].salary);

}

5. rite a function to sort employees according to their salaries [ refer structure from question 1].

#include <stdio.h>

#include <string.h>

struct employee

{

   char name[20];

   int id;

   float salary;

};

void sortbyprice(struct employee e[], int size)

{

   struct employee temp;

   for (int j = 1; j <= size; j++)

   {

      for (int i = 0; i < size-i; i++)

      {

         if (e[i].salary > e[i + 1].salary)

         {

            temp = e[i];

            e[i] = e[i + 1];

            e[i + 1] = temp;

         }

      }

   }

}

void display(struct employee e)

{

   printf("%s, %d , %0.2f\n", e.name, e.id, e.salary);

}

int main()

{

   int i;

   struct employee e[3];

   for (i = 0; i < 3; i++)

   {

      printf("Enter employee %d name , id and salary:", i + 1);

      fflush(stdin);

      fgets(e[i].name, 20, stdin);

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

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

   }

   sortbyprice(e, 3);

   for (i = 0; i < 3; i++)

      display(e[i]);

}

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

#include <stdio.h>

#include <string.h>

struct employee

{

   char name[20];

   int id;

   float salary;

};

void sortbyprice(struct employee e[], int size)

{

   struct employee temp;

   for (int j = 1; j <= size; j++)

   {

      for (int i = 0; i < size-i; i++)

      {

         if (strcmp(e[i].name , e[i + 1].name)>0)

         {

            temp = e[i];

            e[i] = e[i + 1];

            e[i + 1] = temp;

         }

      }

   }

}

void display(struct employee e)

{

   printf("%s, %d , %0.2f\n", e.name, e.id, e.salary);

}

int main()

{

   int i;

   struct employee e[3];

   for (i = 0; i < 3; i++)

   {

      printf("Enter employee %d name , id and salary:", i + 1);

      fflush(stdin);

      fgets(e[i].name, 20, stdin);

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

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

   }

   sortbyprice(e, 3);

   for (i = 0; i < 3; i++)

      display(e[i]);

}

7.Write a program to calculate the difference between two time periods.

#include <stdio.h>

#include <string.h>

struct time

{

   int hour,min,sec;

};

int main()

{

   int i;

   struct time start\_time, stop\_time, diff;

   printf("Enter start time\n");

   printf("Enter hours, min, sec:\n");

   scanf("%d %d %d",&start\_time.hour,&start\_time.min,&start\_time.sec);

   printf("Enter stop time:\n");

   printf("Enter hours, min, sec:\n\n");

   scanf("%d %d %d",&stop\_time.hour,&stop\_time.min,&stop\_time.sec);

   printf("START TIME-> %d:%d:%d\n",start\_time.hour,start\_time.min,start\_time.sec);

   printf("STOP TIME -> %d:%d:%d\n",stop\_time.hour,stop\_time.min,stop\_time.sec);

   while(stop\_time.sec > start\_time.sec)

    {

      --start\_time.min;

      start\_time.sec+=60;

    }

    diff.sec=start\_time.sec - stop\_time.sec;

   while(stop\_time.min > start\_time.min)

   {

      --start\_time.hour;

      start\_time.min+=60;

   }

   diff.min=start\_time.min - stop\_time.min;

   diff.hour=start\_time.hour - stop\_time.hour;

   printf("DIFFERENCE BETWEEN TIME IS:\n");

   printf("%d:%d:%d",diff.hour,diff.min,diff.sec);

}