//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);

}