**מבנים 1 – תשובות**

**1.**

#include<stdio.h>

#include<math.h>

struct point {

double x;

double y;

};

void main() {

struct point a, b;

printf("enter a value of x for point a:\n");

scanf\_s("%lf", &a.x);

printf("enter a value of y for point a:\n");

scanf\_s("%lf", &a.y);

printf("enter a value of x for point b:\n");

scanf\_s("%lf", &b.x);

printf("enter a value of y for point b:\n");

scanf\_s("%lf", &b.y);

double z, w, distance;

z = (a.x - b.x) \* (a.x - b.x);

w = (a.y - b.y) \* (a.y - b.y);

distance= sqrt(z + w);

printf("%lf",distance);

}

**2.**

#include<stdio.h>

struct product {

int barcode;

int amounts;

int min;

};

int good = 0;

void main() {

struct product a, b, c;

printf("enter item details:\n");

scanf\_s("%i",&a.barcode);

scanf\_s("%i", &a.amounts);

scanf\_s("%i", &a.min);

printf("enter item details:\n");

scanf\_s("%i", &b.barcode);

scanf\_s("%i", &b.amounts);

scanf\_s("%i", &b.min);

printf("enter item details:\n");

scanf\_s("%i", &c.barcode);

scanf\_s("%i", &c.amounts);

scanf\_s("%i", &c.min);

if (a.amounts <= a.min) {

printf("product number %i needs an order\n", a.barcode);

}

else {

good++;

}

if (b.amounts <= b.min) {

printf("product number %i needs an order\n", b.barcode);

}

else

good++;

if (c.amounts <= c.min) {

printf("product number %i needs an order\n", c.barcode);

}

else

good++;

if (good == 3) {

printf("all suplies are good!");

}

}

**3.**

#include<stdio.h>

struct date {

int year;

int month;

int day;

};

int x, y, z, w, q, r;

struct date a, b, c;

void main() {

printf("enter a year,month and a day:\n");

scanf\_s("%i", &x);

scanf\_s("%i", &y);

scanf\_s("%i", &z);

while ((y > 12 || y < 1) || (z < 0 || z > 31)) {

printf("enter a year,month and a day:\n");

scanf\_s("%i", &x);

scanf\_s("%i", &y);

scanf\_s("%i", &z);

}

if ((y <= 12 && y > 0) && (z > 0 && z < 31)) {

a.day = z;

a.month = y;

a.year = x;

}

printf("enter a year,month and a day:\n");

scanf\_s("%i", &w);

scanf\_s("%i", &q);

scanf\_s("%i", &r);

while ((q > 12 || q < 1) || (r < 0 || r > 31)) {

printf("enter a year,month and a day:\n");

scanf\_s("%i", &w);

scanf\_s("%i", &q);

scanf\_s("%i", &r);

}

if ((q <= 12 && q > 0) && (r > 0 && r < 31)) {

b.day = r;

b.month = q;

b.year = w;

}

if (a.year > b.year) {

printf("%i/%i/%i\n", b.day, b.month, b.year);

printf("%i/%i/%i\n", a.day, a.month, a.year);

}

if (a.year < b.year) {

printf("%i/%i/%i\n", a.day, a.month, a.year);

printf("%i/%i/%i\n", b.day, b.month, b.year);

}

if (a.year == b.year) {

if (a.month < b.month) {

printf("%i/%i/%i\n", a.day, a.month, a.year);

printf("%i/%i/%i\n", b.day, b.month, b.year);

}

if (a.month > b.month) {

printf("%i/%i/%i\n", b.day, b.month, b.year);

printf("%i/%i/%i\n", a.day, a.month, a.year);

}

if (a.month == b.month) {

if (a.day > b.day) {

printf("%i/%i/%i\n", b.day, b.month, b.year);

printf("%i/%i/%i\n", a.day, a.month, a.year);

}

if (a.day < b.day) {

printf("%i/%i/%i\n", a.day, a.month, a.year);

printf("%i/%i/%i\n", b.day, b.month, b.year);

}

if (a.day == b.day) {

printf("those are the same date");

}

}

}

}

**4.**

#include<stdio.h>

struct square {

int perpendicular = 0;

int horizontal;

};

struct triangle{

int side1;

int side2;

int side3;

};

void main() {

struct square a, b;

struct triangle c, d;

printf("enter the size of the horizontal side of square1:\n");

scanf\_s("%i", &a.horizontal);

printf("enter the size of the perpendicular side of the square1:\n");

scanf\_s("%i", &a.perpendicular);

printf("enter the size of the horizontal side of square2:\n");

scanf\_s("%i", &b.horizontal);

printf("enter the size of the perpendicular side of the square2:\n");

scanf\_s("%i", &b.perpendicular);

printf("enter size for a side of triangle1:\n");

scanf\_s("%i", &c.side1);

printf("enter size for a side of triangle1:\n");

scanf\_s("%i", &c.side2);

printf("enter size for a side of triangle1:\n");

scanf\_s("%i", &c.side3);

printf("enter size for a side of triangle2:\n");

scanf\_s("%i", &d.side1);

printf("enter size for a side of triangle2:\n");

scanf\_s("%i", &d.side2);

printf("enter size for a side of triangle2:\n");

scanf\_s("%i", &d.side3);

printf("the circumference of the the squares is: %i\n", a.horizontal + a.perpendicular + b.horizontal + b.perpendicular);

printf("the area of the the squares is: %i\n", a.horizontal \* a.perpendicular + b.horizontal \* b.perpendicular);

printf("the circumference of the the triangles is: %i\n", c.side1 + c.side2 + c.side3 + d.side1 + d.side2 + d.side3);

}