**实验6  选择结构if语句**

编程输入两个整数，如果都大于等于100，则输出他们百位以上的数字，否则输出两个数之和。

例如输入：111  2222

则应输出：Numbers above a hundred digits are:1 and 22

又例如输入：11  222

则应输出：11+222=233

C语言源程序(ex6-1.c)：

#include<stdio.h>

int main()

{

int a, b;

printf("Enter two integers: ");

scanf("%d %d", &a, &b);

if (a >= 100 && b >= 100) {

printf("Numbers above a hundred digits are: %d, %d",a/100,b/100);

} else {

int sum = a + b;

printf("%d + %d = %d\n", a, b, sum);

}

return 0;

}

2．编程任意输入四个数n1,n2,n3,n4，输出其中最大的一个数。

输入输出示例：

Input n1,n2,n3,n4: 5 20.5 15   8

max=20.50

C语言源程序(ex6-2.c)：

#include <stdio.h>

int main()

{

    int a,b,c,d;

    printf("enter 4 number :\n");

    scanf("%d%d%d%d",&a,&b,&c,&d);

    if ((a>b)&&(a>c)&&(a>d))

    {printf(" largest is %d",a);}

    else if ((b>a)&&(b>c)&&(b>d))

    {printf(" largest is %d",b);}

    else if ((c>a)&&(c>b)&&(c>d))

    {printf(" largest is %d",c);}

    else {printf("largest is %d",d);}

    return 0;

}

3．编程输入x,计算并输出下列分段函数y的值。

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| y= |  | |  |  | | --- | --- | | x | x<1 | | 2x-1 | 1<=x<10 | | 3x-1 | x>=10 | |

输入输出示例：

Input x: -2.5

f(-2.500000)=-2.5（结果保留1位小数）

提示：该程序应该运行3次，每次测试一个分支，即分别输入每个分段中的x值。

C语言源程序(ex6-3.c)：

#include <stdio.h>

int main() {

    float x, y;

    // Input x

    printf("Input x: ");

    scanf("%f", &x);

    // Calculate y based on the piecewise function

    if (x < 1) {

        y = x;

    } else if (x < 10) {

        y = 2 \* x - 1;

    } else {

        y = 3 \* x - 1;

    }

    // Output the result with 1 decimal place

    printf("f(%.6f)=%.1f\n", x, y);

    return 0;

}

4．销售人员的工资主要是基本工资加销售提成。如果销售量>500，提成15%；如果500>=销售量>300，提成10%；如果300>=销售量>100，提成7.5%；如果100>=销售量>50，提成5%；否则无提成。

已知某销售公司的基本工资是3000元，输入员工的销售量，输出该员工的工资。

输入输出示例：

Please enter basic salary:3000

Please enter sales:150

Your salary: 3011

C语言源程序(ex6-4.c)：

#include <stdio.h>

int main() {

    float basicSalary, sales, commissionRate, commission, totalSalary;

    // Input basic salary

    printf("Please enter basic salary: ");

    scanf("%f", &basicSalary);

    // Input sales volume

    printf("Please enter sales: ");

    scanf("%f", &sales);

    // Determine commission rate based on sales volume

    if (sales > 500) {

        commissionRate = 0.15;

    } else if (sales > 300) {

        commissionRate = 0.10;

    } else if (sales > 100) {

        commissionRate = 0.075;

    } else if (sales > 50) {

        commissionRate = 0.05;

    } else {

        commissionRate = 0.0;

    }

    // Calculate commission and total salary

    commission = sales \* commissionRate;

    totalSalary = basicSalary + commission;

    // Output the total salary

    printf("Your salary: %.0f\n", totalSalary);

    return 0;

}