计算机程序设计实验一

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1. 源代码
2. 《习题汇编》p30 例1：实现减法

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| #include <stdio.h>  int main()  {int a, b,c;  printf("请输入被减数及减数：\n"); | scanf("%d",&a);  scanf("%d",&b);  c = a - b;  printf("%d-%d = %d\n",a ,b,c);  return 0;} |

1. 《习题汇编》p34 例2：求解二元一次方程

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| #include <stdio.h>  #include <math.h>  int main()  {float a, b, c, d, del, x1, x2;  printf("请按二次项、一次项、常数项的顺序输入数据：\n");  scanf("%f", &a);  scanf("%f", &b);  scanf("%f", &c);  if(a == 0)  {printf("输入的二次项系数为 0，方程不是一元二次方程。\n");  return(-1);}  d = -b/(2\*a);  del=pow(b, 2) - 4\*a\*c; | if (del == 0)  {x1 = x2 = d;  printf("一元二次方程%fx^2+%fx+%f=0有两个相同的实数根：x1=x2=%f\n",a,b,c,x1);}  else if (del > 0)  {x1 = d + sqrt(del)/ (2\*a); x2 = d - sqrt(del)/ (2\*a);  printf("一元二次方程%fx^2+%fx+%f=有两个不相同的实根：x1=%f ,x2=%f\n",a,b,c,x1,x2);}  else  {x1 = sqrt(abs(del))/2\*a;  x2 = sqrt(abs(del))/2\*a;  printf("一元二次方程%fx^2+%fx+%f=0有两个共轭复根：x1=%f+i%f ,x2=%f-i%f\n",a,b,c,d,x1,d,x2);}  return 0;} |

1. 《指导与实践》p60 例1:求Max

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| --- | --- |
| #include<stdio.h>  int main()  {int a,b,c,max;  printf("Enter a，b，c：\n");  scanf("%d%d%d",&a,&b,&c); | max=a;  if(max<b)max=b;  if(max<c)max=c;  printf("max=%d\n",max);} |

1. 《指导与实践》p60 例2

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| --- | --- |
| #include<math.h>  #include<stdio.h>  main()  {double a,b,c,p,d,x1,x2;  a=1.0;b=-(1.0e+12+1.0);c=1.0e+12; | p=sqrt(b\*b-4\*a\*c);  d=2.0\*a;  x1=(-b+p)/d;  x2=(-b-p)/d;  printf("x1=%e\nx2=%e\n",x1,x2); } |

1. 《指导与实践》p62 习题2

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| --- | --- |
| #include<stdio.h>  #include<math.h>  #define PI 3.14159265358979  int main()  {float R,H,V; | printf("请输入圆柱体半径R：");scanf("%f",&R);  printf("请输入圆柱体高H：");scanf("%f",&H);  if (R>0&&H>0)  {V=PI\*R\*R\*H;  printf("圆柱体体积为%-f",V);}  else printf("\n请输入正确的数圆柱体参数"); } |

1. 《指导与实践》p62 习题3:实现华氏度向摄氏度转变

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| --- | --- |
| #include<stdio.h>  int main()  {float f,c;  printf("请输入华氏度f：");scanf("%f",&f); | c= 5.0/9\*(f-32) ;  if(c>=-273.15) //华氏度绝对零度为-459.67℉  printf("华氏度%-.3f下对应摄氏度：%-.3f℃",f,c);  else printf("请输入正确的温度");} |

1. 《指导与实践》p62 习题5

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| --- | --- |
| #include<stdio.h>  main()  {char c1,c2,c3,c4;  scanf("%c%c",&c1,&c2);  getchar(); | c3=getchar();c4=getchar();  printf("%c %c %c %c\n",c1,c2,c3,c4);  printf("%c，%d\n",c1,c1);  printf("%d,%d\n",sizeof(c1),sizeof("1234"));} |

1. 《指导与实践》p62 习题6

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| --- | --- |
| #include<math.h>  #include<stdio.h>  main()  {float a,b,c,p,d,x1,x2;  a=1.0;b=-(1.0e+12+1.0);c=1.0e+12; | p=sqrt(b\*b-4\*a\*c);  d=2.0\*a;  x1=(-b+p)/d;  x2=(-b-p)/d;  printf("x1=%e\nx2=%e\n",x1,x2); } |

1. 测试数据

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | 变量 | 一 | 二 | 三 | 四 |
| 1 | 被减数 | 1 | 5 | -7 | -11 |
| 减数 | 3 | -7 | 9 | -13 |
| 2 | a | 0 | 1 | 1 | 1 |
| b | 2 | 2 | 4 | 2 |
| c | 4 | 1 | 3 | 3 |
| 3 | a | 5 | -1 | 3 |  |
| b | 7 | 5 | 2 |  |
| c | 8 | 2 | -4 |  |
| 5 | R | 6 | 5 | 0 |  |
| H | 7 | -5 | 3 |  |
| 6 | 华氏度 | -459.67 | -459.66 | 100 |  |
| 7 | 依次 | 12 | 3456 |  |  |

1. 调试过程
2. 运行结果
3. 体会总结