第三周上机

窦闻

2025-3-6

1. 阅读课本例9.5、9.9，参考实验9-1和9-2，完善以下程序。代码保存为 ex2-1.cpp

#include <iostream>  
using namespace std;  
   
void sort1(int\*\* ppa, int\*\* ppb, int\*\* ppc)；  
void sort2(int\*& pa, int\*& pb, int\*& pc)；  
   
int main()  
{  
 int a=3,b=2,c=1;  
   
 int \*pa=&a, \*pb=&b, \*pc=&c;  
 sort1(&pa,&pb,&pc);  
 cout << \*pa << ' ' << \*pb << ' ' << \*pc << endl; //输出1 2 3  
 cout << a << ' ' << b << ' ' << c << endl; //输出3 2 1  
   
 pa=&a, pb=&b, pc=&c;  
 sort2(pa,pb,pc);  
 cout << \*pa << ' ' << \*pb << ' ' << \*pc << endl; //输出1 2 3  
 cout << a << ' ' << b << ' ' << c << endl; //输出3 2 1  
   
 return 0;  
}

1. 仔细阅读并理解 local\_mean 函数后完善以下程序. 提示: 利用单步调试或在函数中添加输出语句查看变量取值, 从而理解指针运算的规律. 代码保存为 ex2-2.cpp

#include <iostream>  
using namespace std;  
   
double local\_mean(double \*p, int k);  
double local\_max(double \*p, int k);  
double local\_min(double \*p, int k);  
   
double local\_mean(double \*p, int k)  
{  
 double sum = 0.0;  
 for (int i = -k; i <= k; i++)  
 sum += \*(p + i);  
 return sum / (2 \* k + 1);  
}  
   
int main()  
{  
 double arr[] = {1, 2, 5, 22, 5, -2, -5, -9, -3, 5, 3, -7, 9, 0, 3, -9, 0, 4, 28, 0};  
 double result[30]{};  
 int k = 2, N;  
 N = sizeof(arr) / sizeof(arr[0]);  
 double \*p = &arr[k];  
   
 // call local\_mean  
 // 7 6.4 5 2.2 -2.8 -2.8 -1.8 -2.2 1.4 2 1.6 -0.8 0.6 -0.4 5.2 4.6  
 for (int i = 0; i < N - 2 \* k; ++i)  
 result[i] = local\_mean(p + i, k);  
 for (int i = 0; i < N - 2 \* k; ++i)  
 cout << result[i] << '\t';  
 cout << endl;  
   
 // call local\_max  
 // 22 22 22 22 5 5 5 5 9 9 9 9 9 4 28 28  
 for (int i = 0; i < N - 2 \* k; ++i)  
 result[i] = local\_max(p + i, k);  
 for (int i = 0; i < N - 2 \* k; ++i)  
 cout << result[i] << '\t';  
 cout << endl;  
   
 // call local\_min  
 // 1 -2 -5 -9 -9 -9 -9 -9 -7 -7 -7 -9 -9 -9 -9 -9  
 for (int i = 0; i < N - 2 \* k; ++i)  
 result[i] = local\_min(p + i, k);  
 for (int i = 0; i < N - 2 \* k; ++i)  
 cout << result[i] << '\t';  
 cout << endl;  
   
 return 0;  
}