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| **Ch09-01.cpp:** *Bubble Sort* |
| **Line#** | **Code** |
| 12345678910111213141516171819202122232425262728293031323334353637383940414243444546474849505152535455565758596061626364656667686970717273747576777879808182838485 | #include <iostream>#include <string.h>using namespace std;#define NOI(\_arr) (sizeof(\_arr)/sizeof(\_arr[0]))struct STUDENT { const char\* Name; //char Name[20+1]; unsigned char Age; float CGPA;};void showStudentInfo(STUDENT\* ps, int noi) { for (int i = 0; i < noi; i++) { cout << "Age:" << (int)ps->Age << " CGPA:" << ps->CGPA << " Name:" << ps->Name << endl; ps++; } cout << endl;}static void sortStudentByAge(STUDENT\* students, int noi) { for (int x = 0; x < (noi - 1); x++) { for (int y = 0; y < (noi - x - 1); y++) { if (students[y].Age > students[y + 1].Age) { STUDENT student = students[y]; students[y] = students[y + 1]; students[y + 1] = student; } } }}static void sortStudentByCGPA(STUDENT\* students, int noi) { for (int x = 0; x < (noi - 1); x++) { for (int y = 0; y < (noi - x - 1); y++) { if (students[y].CGPA > students[y + 1].CGPA) { STUDENT student = students[y]; students[y] = students[y + 1]; students[y + 1] = student; } } }}static void sortStudentByName(STUDENT\* students, int noi) { for (int x = 0; x < (noi - 1); x++) { for (int y = 0; y < (noi - x - 1); y++) { if (strcmp(students[y].Name, students[y + 1].Name) > 0) { STUDENT student = students[y]; students[y] = students[y + 1]; students[y + 1] = student; } } }}int main() { STUDENT students[] = { {"Yong Tau Foo", 18, 3.15F}, {"Low Shi Fun", 21, 3.35F}, {"Lee Chee kang",20, 2.15F}, {"Low Mai Kai", 22, 3.05F}, {"Low Mee", 19, 2.95F}, }; showStudentInfo(students, NOI(students)); sortStudentByAge(students, NOI(students)); showStudentInfo(students, NOI(students)); sortStudentByCGPA(students, NOI(students)); showStudentInfo(students, NOI(students)); sortStudentByName(students, NOI(students)); showStudentInfo(students, NOI(students)); return 0;}/\*Amend the above code to preform sorting of the student list by:1) Age2) CGPA3) Name\*/ |