|  |  |
| --- | --- |
| **Ex09-01.cpp:** *Content, Address, Pointer and Synonym* | |
| **Line#** | **Code** |
| 1  2  3  4  5  6  7  8  9  10  11  12  13  14  15  16 | #include <iostream>  using namespace std;  int main() {  int n = 100;  int\* p = &n;  cout << "n is " << n << endl;  \*p = 999;  cout << "n is " << n << endl;  int& m = n; //Synonym  cout << "&n:" << &n << endl;  cout << "&m:" << &m << endl;  m = 888;  cout << "n is " << n << endl;  return 0;  } |

The Following is **Anonymous Function** version:

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| --- | --- |
| Ex09-09b.cpp | |
| Line# | Code |
| **1**  **2**  **3**  **4**  **5**  **6**  **7**  **8**  **9**  **10**  **11**  **12**  **13**  **14**  **15**  **16**  **17**  **18**  **19**  **20**  **21**  **22**  **23**  **24**  **25**  **26**  **27**  **28**  **29**  **30**  **31**  **32**  **33**  **34**  **35**  **36**  **37**  **38**  **39**  **40**  **41**  **42**  **43**  **44**  **45**  **46**  **47**  **48**  **49**  **50**  **51**  **52**  **53**  **54**  **55**  **56**  **57**  **58**  **59**  **60**  **61**  **62**  **63**  **64**  **65**  **66**  **67**  **68**  **69**  **70**  **71**  **72**  **73** | #include <iostream>  #include <string.h>  **using namespace** std;  #define NOI(\_arr) (sizeof(\_arr)/sizeof(\_arr[0]))  #define showStudentRecords(\_students) \_showStudentRecords(\_students,NOI(\_students))  #define sortStudents(\_students,\_criteria) \_sortStudents(\_students,NOI(\_students),\_criteria)  **struct** STUDENT {  **const char**\* name;  **unsigned char** age;  **float** cgpa;  };  **typedef** **bool** (\*COMPARER)(STUDENT lhs, STUDENT rhs);  **void** \_showStudentRecords(STUDENT\* ps, **unsigned** n) {  **while** (n--) {  cout << "Age:" << (**int**)ps->age << '\t' <<  "CGPA:" << ps->cgpa << '\t' <<  "Name:" << ps->name << endl;  ps++;  }  cout << endl;  }  **static void** \_sortStudents(STUDENT\* ps, **int** noi, COMPARER cmp) {  **for** (**int** x = 0; x < (noi - 1); x++) {  **for** (**int** y = 0; y < (noi - x - 1); y++) {  **if** (cmp(ps[y], ps[y + 1])) {  STUDENT s = ps[y];  ps[y] = ps[y + 1];  ps[y + 1] = s;  }  }  }  }  /\*  static bool ByCGPA(STUDENT lhs, STUDENT rhs) {  return lhs.cgpa > rhs.cgpa;  }  static bool ByAgeDesc(STUDENT lhs, STUDENT rhs) {  return lhs.age < rhs.age;  }  static bool ByName(STUDENT lhs, STUDENT rhs) {  return strcmp(lhs.name, rhs.name) > 0;  }  \*/  **int** main() {  STUDENT class2020[] = {  {"Fatimah", 19, 3.45F},  {"Zahran", 18, 3.25F},  {"Abu", 20, 3.65F},  {"Zawawi", 20, 3.75F},  {"Nizam", 19, 3.85F},  };  showStudentRecords(class2020);  sortStudents(class2020, [](STUDENT lhs, STUDENT rhs) { **return** lhs.cgpa > rhs.cgpa; });  showStudentRecords(class2020);  sortStudents(class2020, [](STUDENT lhs, STUDENT rhs) {**return** lhs.age < rhs.age;});  showStudentRecords(class2020);  sortStudents(class2020, [](STUDENT lhs, STUDENT rhs) { **return** strcmp(lhs.name, rhs.name) > 0;});  showStudentRecords(class2020);  **return** 0;  } |