**Name**: \_\_Jin-Ching Jeng\_\_\_\_\_\_\_

Fill the following table with your solution:

|  |  |
| --- | --- |
| **Executable size without using –g :** 171876 | **Why?**  The -g option causes the compiler to include information about the source file (the .cpp file) that is needed for debugging as part of the executable file, so the size is bigger than without using -g. |
| **Executable size when using –g :** 302868 |

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| --- | --- | --- | --- | --- | --- |
| **Bug #** | **Details** | | | **Proposed solution** | |
| File, line | Function name | Description | Description | Modified code |
| **1** | Department.cpp:143 | RemoveEmployee | Redundant semicolon after if condition | Remove the semicolon | if (E.getID() == Programmers->at(i).getID()) |
| **2** | Department.cpp:162 | getAllProjectIDs | Not initialize int i in for loop | Initialize with 0 | for (i = 0; i < Programmers->size(); i++) |
| **3** | Department.cpp:170 | getAllProjectIDs | Not initialize int i in for loop | Initialize with 0 | for (i = 0; i < SoftwareArchitects->size(); i++) |
| **4** | employeeClass.cpp:16 | Employee | If condition id>0 is wrong | Modify with id<0 | (id < 0) ? ID = 0 : ID = id; |
| **5** | employeeClass.cpp:18 | Employee | Both input parameter and member variable using the same name: jobTitle | use this-> for member variable | this->jobTitle = jobTitle; |
| **6** | employeeClass.h:30 | print | Every class can only use employee’s print() | Every class should use its own print() | virtual void print(); |
| **7** | main.cpp:67 | main | Not initialize int i in for loop | Initialize with 0 | for (unsigned i = 0; i < AllITEmployees->size(); i++) |
| **8** | main.cpp:101 | main | Print project IDs without sorting | Sort the vector before printing | sort(AllProjects->begin(), AllProjects->end()); |
| **9** | Department.cpp:66 | CalculateAverageSalary | Return type int doesn’t match with expected output | Return double | double Department::CalculateAverageSalary(StaffTypes type) |
| **10** | Department.h:34 | CalculateAverageSalary | Return type int doesn’t match with expected output | Return double | double CalculateAverageSalary(StaffTypes); |
| **11** | Department.cpp:96 | CalculateAverageSalary | Base on bug#9, when 0 divided by 0, type double returns nan | If sum = 0, return 0 directly | return (sum == 0)? 0: sum/i ; |