

Programming Assignment 1

Statement of Work

1 Overview

You have been contract by a wholesale computer equipment supplier. The supplier sells computers, computer parts, and computer peripherals to a large number of retail stores throughout the United States. The company would like to create a database of all its sales representatives. This database must be capable of maintaining the employee ID, employee name, department, and annual salary of each sales representative. The first phase of development for this database will be to create the `EmployeeRecord` class.

2 Requirements

The student shall define, develop, document, prototype, test, and modify as required the software system.

2.1 This software system shall consist of one source file (.cpp) and one header file (.h) defining a C++ class that can be used to store information on one employee.

2.2 The header file shall be named **EmployeeRecord.h** and shall provide the specification for a C++ class. The source file shall be named **EmployeeRecord.cpp** and shall implement all functions of the class.

2.2.1 The class shall contain the following private variables: (1) an int called **m_iEmployeeID**, (2) a character array of length 32 called **m_sLastName**, (3) a character array of length 32 called **m_sFirstName** (4) an int called **m_iDeptID**, and (5) a double called **m_dSalary**. Details of these variables are defined below.

2.2.1.1 **m_iEmployeeID** – This integer uniquely identifies this employee. This field will be used as the key when searching for an employee in later programming assignments.

2.2.1.2 **m_sLastName/m_sFirstName** – These two character arrays hold the name of the employee. First and last names may be up to 31 characters in length. These variables may not be implemented as string objects.

2.2.1.3 **m_iDeptID** – This integer identifies the employee's department within the company.

2.2.1.4 **m_dSalary** – This double holds the employee's annual salary.

2.2.2 The class shall contain the following public functions: a constructor and destructor and get and set functions for each of the variables. These functions shall work as described in the following paragraphs.

2.2.2.1 **EmployeeRecord()** – The default constructor shall set the member variables to the following initial values: `m_iEmployeeID = 0`, `m_sLastName = ""`, `m_sFirstName = ""`, `m_iDeptID = 0`, and `m_dSalary = 0.0`. **Pay careful attention to the warning you will receive in class about how to set the values of strings implemented as character arrays. You may NOT substitute the string class for character arrays in this assignment.**

- 2.2.2.2 **EmployeeRecord(int ID, char *fName, char *lName, int dept, double sal)** – This constructor shall set the member variables to the values passed into the function. The arguments **fName** and **lName** are pointers to character arrays.
- 2.2.2.3 **~EmployeeRecord()** – The destructor shall take care of cleaning up and deallocating any memory that pointers within this class may have reference to.
- 2.2.2.4 **int getID()/void setID(int ID)** – The function **getID()** shall return the int value stored in the member variable **m_iEmployeeID**. The function **setID()** will set the member variable **m_iEmployeeID** to the value of its' argument.
- 2.2.2.5 **void getName(char *fName, char *lName)/void setName(char *fName, char *lName)** – The **getName()** function shall copy the member variables **m_sFirstName** and **m_sLastName** into the character arrays pointed to by the function arguments. The **setName()** function will copy the function arguments into the member variables **m_sFirstName** and **m_sLastName**.
- 2.2.2.6 **void getDept(int& d)/void setDept(int d)** – The **getDept()** function shall be defined as a reference function. That is, a call to this function will copy the member variable **m_iDeptID** into the int variable referenced by the function argument. The **setDept()** function will copy the function argument into the member variable **m_iDeptID**.
- 2.2.2.7 **void getSalary(double *sal)/void setSalary(double sal)** – The **getSalary()** function shall be defined as a pointer function. That is, a call to this function will copy the member variable **m_dSalary** into the int variable pointed to by the function argument. The function **setSalary()** shall copy the function argument into the member variable **m_dSalary**.
- 2.2.2.8 **void printRecord()** – This function shall print to the screen all data found in the employee's record.

3 Deliverables

These products shall be delivered to the instructor electronically via Canvas not later than **Tuesday, February 4, 2020**.

- 3.1 Sprint Report – The student shall provide a filled out Sprint Report form.
- 3.2 Program Source Files – The student shall provide fully tested electronic copies of the .cpp and .h files.