

Software Test Plan for Employee Record Database

Programming Assignment 1
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Prepared By
Paul Abers
pa0034@uah.edu

Prepared For
Mr. James Williamson
CS 221, Data Structures in C++
Computer Science Department
University of Alabama in Huntsville

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1 System Overview

The purpose of this assignment is to provide a simple and easy way to access an employee record class. The class must store an employee ID, employee name, department and annual salary of each employee. The class will eventually be ported to an employee database.

2 Referenced Documents

Programming Assignment 1: Statement of Work. Software Design Document for the Employee Record Database program.

3 Test Procedures

The following tests will be performed on the software before its release.

3.1 Source File: EmployeeRecord.h and EmployeeRecord.cpp

3.1.1 Function: EmployeeRecord()

3.1.1.1 Purpose and procedure

This test will determine if the EmployeeRecord constructor is working correctly.

3.1.1.2 Inputs

First, a call to the default constructor. Then a call to constructor that takes all inputs.

3.1.1.3 Expected Output

The employee record to be initialized to the default state or the input initialized state depending on the call made to the constructor.

3.1.1.4 Success Criteria

The employee record will be checked by calling the constructor and then comparing its state with calls to all the get methods as well as printRecord(). All should match the expected values that were set by either the default or input initialized constructor calls.

3.1.2 Function: EmployeeRecord()

3.1.2.1 Purpose and procedure

This test will determine if the destructor for the employee record class is working properly. A test employee record already set will be supplied.

3.1.2.2 Inputs

An employee record class with all values already set.

3.1.2.3 Expected Output

The employee record class to properly deallocate memory from all internal variables.

3.1.2.4 Success Criteria

Initialize multiple employee record classes and destruct them. Make sure that memory for the program does not keep increasing after employee records are destroyed.

3.1.3 Function: getID()

3.1.3.1 Purpose and procedure

This test will determine if the getId() function is working correctly. A test employee record already set will be supplied.

3.1.3.2 Inputs

An employee record class with employee id set to a known integer value.

3.1.3.3 Expected Output

The employee record's currently set value.

3.1.3.4 Success Criteria

The int returned by getID() matches the int value set for the employee id.

3.1.4 Function: setID()

3.1.4.1 Purpose and procedure

This test will determine if the setId() function is working correctly. A test employee record already set will be supplied.

3.1.4.2 Inputs

An employee record class with employee id set to a known integer value. Employee record's id will then be set to a new value.

3.1.4.3 Expected Output

The employee record's new int value to be returned by getID().

3.1.4.4 Success Criteria

The int returned by getID() matches the int value set for the employee id.

3.1.5 Function: getName()

3.1.5.1 Purpose and procedure

This test will determine if the getName() function is working correctly. A test employee record already set will be supplied.

3.1.5.2 Inputs

An employee record class with employee first name and last name set to known character array values.

3.1.5.3 Expected Output

The employee record's currently set values for the first and last name.

3.1.5.4 Success Criteria

The character arrays passed into getName to be changed to the current values for the employee record's first and last names.

3.1.6 Function: setName()

3.1.6.1 Purpose and procedure

This test will determine if the setName() function is working correctly. A test employee record already set will be supplied.

3.1.6.2 Inputs

An employee record class with employee first name and last name set to known character array values.

3.1.6.3 Expected Output

The employee record's first name and last name to be changed to the first and last name passed to the function.

3.1.6.4 Success Criteria

The employee record's first and last name to start at one known value, be set by the call to the function and the values copied by getName() to match those passed by setName().

3.1.7 Function: getDept()

3.1.7.1 Purpose and procedure

This test will determine if the getDept() function is working correctly. A test employee record already set will be supplied.

3.1.7.2 Inputs

An employee record class with employee department set to a known integer value.

3.1.7.3 Expected Output

The employee record's currently set department value to be copied into the reference variable passed into the function.

3.1.7.4 Success Criteria

The int value copied into the passed reference variable to match the int value of the employee record's department value.

3.1.8 Function: setDept()

3.1.8.1 Purpose and procedure

This test will determine if the setDept() function is working correctly. A test employee record already set will be supplied.

3.1.8.2 Inputs

An employee record class with employee department set to a known integer value.

3.1.8.3 Expected Output

The employee record's department value to be set to the new value passed by the call of the method setDept().

3.1.8.4 Success Criteria

The department to start as a known integer, be set to a new integer value, and the subsequent call to getDept() to match the value of its referenced argument with that of the value passed to setDept().

3.1.9 Function: getSalary()

3.1.9.1 Purpose and procedure

This test will determine if the getSalary() function is working correctly. A test employee record already set will be supplied.

3.1.9.2 Inputs

An employee record class with employee salary set to a known integer value.

3.1.9.3 Expected Output

The employee record's currently set salary value.

3.1.9.4 Success Criteria

The double copied into the pointer by `getID()` matches the double value for the current employee's sacurrent value for the employee's salary.

3.1.10 Function: `setSalary()`

3.1.10.1 Purpose and procedure

This test will determine if the `setSalary()` function is working correctly. A test employee record already set will be supplied.

3.1.10.2 Inputs

An employee record class with employee salary set to a known integer value.

3.1.10.3 Expected Output

The employee record's salary to be set to the new salary.

3.1.10.4 Success Criteria

The salary to start as a known double, be set to a new double value, and the subsequent call to `getSalary()` to match the value of its pointer argument with that of the value passed to `setDept()`.

3.1.11 Function: `printRecord()`

3.1.11.1 Purpose and procedure

This test will determine if the `printRecord()` function is working correctly. A test employee record already set will be supplied.

3.1.11.2 Inputs

An employee record class with all of its member variables set to known values.

3.1.11.3 Expected Output

Proper display of employee record to screen.

3.1.11.4 Success Criteria

All member variables to be properly printed to screen with their known values.