

**Test Design Document**

Test Case #	Purpose for the Test Case	Input Data	Expected Output
1	<p>Test blank inputs (name, date hired, dept, employee type, or salary/ hourly rate) for add button (cases 1-8) and remove/ setHours button (cases 1-4).</p> <ul style="list-style-type: none"> <li>• <b>Case 1:</b> Name is not inputted.</li> <li>• <b>Case 2:</b> Name is inputted. Department is not inputted.</li> <li>• <b>Case 3:</b> Name and department are inputted. Date hired is not inputted.</li> <li>• <b>Case 4:</b> Name, department and date hired are inputted. Employee type is not.</li> <li>• <b>Case 5:</b> Name, dept, date hired, and fulltime are inputted. Annual salary is not.</li> <li>• <b>Case 6:</b> Name, dept, date hired, and parttime are inputted. Hourly rate is not.</li> <li>• <b>Case 7:</b> Name, dept, date hired, management, and management role are inputted. Annual salary is not inputted.</li> <li>• <b>Case 8:</b> Name, dept, date hired, management, and annual salary are inputted. Management role is not inputted.</li> </ul>	<p><b>Case 1 (No input):</b></p> <p><b>Case 2:</b> Doe,John</p> <p><b>Case 3:</b> Doe,John IT</p> <p><b>Case 4:</b> Doe,John IT 1/1/2020</p> <p><b>Case 5:</b> Doe,John IT 1/1/2020 Fulltime</p> <p><b>Case 6:</b> Doe,John IT 1/1/2020 Parttime</p> <p><b>Case 7:</b> Doe,John IT 1/1/2020 Management Director</p> <p><b>Case 8:</b> Doe,John IT 1/1/2020 Management 100000</p>	<p><b>Case 1</b> prints “Name cannot be empty!”</p> <p><b>Case 2</b> prints “Select a department!”</p> <p><b>Case 3</b> prints “Date cannot be empty!”</p> <p><b>Case 4</b> prints “Select an employee type!”</p> <p><b>Case 5</b> prints “Annual salary cannot be empty!”</p> <p><b>Case 6</b> prints “Hourly rate cannot be empty!”</p> <p><b>Case 7</b> prints “Annual salary cannot be empty!”</p> <p><b>Case 8</b> prints “Select a management role!”</p>

2	<p>Test the date picker or inputted date for invalid dates. Day-in-month invalid dates are handled by the date picker.</p> <ul style="list-style-type: none"> <li>• <b>Case 1:</b> Future date</li> <li>• <b>Case 2:</b> Date older than 1/1/1900</li> <li>• <b>Case 3:</b> Valid date</li> </ul>	<p><b>Case 1:</b> Doe,John IT 1/1/2022 Fulltime 100000</p> <p><b>Case 2:</b> Doe,John IT 12/31/1899 Fulltime 100000</p> <p><b>Case 3:</b> Doe,John IT 1/1/2020 Fulltime 100000</p>	<p><b>Case 1</b> prints "01/01/2022 is not a valid date!"</p> <p><b>Case 2</b> prints "12/31/1899 is not a valid date!"</p> <p><b>Case 3</b> prints "Employee added."</p>
3	<p>Test the input values of the annual salary, hourly rate and number of hours.</p> <ul style="list-style-type: none"> <li>• <b>Case 1:</b> Annual salary is negative.</li> <li>• <b>Case 2:</b> Hourly rate is negative.</li> <li>• <b>Case 3:</b> Number of hours is negative.</li> <li>• <b>Case 4:</b> Number of hours is greater than 100.</li> </ul>	<p><b>Case 1:</b> Doe,John IT 1/1/2020 Fulltime -100000</p> <p><b>Case 2:</b> Doe,John IT 1/1/2020 Parttime -16.50</p> <p><b>Case 3:</b> Doe,John IT 1/1/2020 Fulltime -20</p> <p><b>Case 4:</b> Doe,John IT 1/1/2020 Fulltime 110</p>	<p><b>Case 1</b> prints "Annual salary cannot be negative!"</p> <p><b>Case 2</b> prints "Hourly rate cannot be negative!"</p> <p><b>Case 3</b> prints "Working hours cannot be negative!"</p> <p><b>Case 4</b> prints "Invalid Hours: over 100."</p>
4	<p>Test alphabetical or special character inputs for annual salary, hourly rate and hours worked. Test numeral or special character inputs for name.</p> <ul style="list-style-type: none"> <li>• <b>Case 1:</b> Name contains numbers and special characters.</li> <li>• <b>Case 2:</b> Annual salary contains letters and special characters.</li> <li>• <b>Case 3:</b> Hourly rate contains letters and special characters.</li> <li>• <b>Case 4:</b> Number of</li> </ul>	<p><b>Case 1:</b> Name = "Do5,&amp;ohn"</p> <p><b>Case 2:</b> Annual salary = "100abc*d"</p> <p><b>Case 3:</b> Hourly rate = "1B.#76"</p> <p><b>Case 4:</b> Hours worked = "2fifty(1)"</p>	<p><b>Case 1</b> prints "Name is invalid."</p> <p><b>Case 2</b> prints "Invalid input!"</p> <p><b>Case 3</b> prints "Invalid input!"</p> <p><b>Case 4</b> prints "Invalid input!"</p>

	hours contains letters and special characters.		
5	<p>Test the add method for parttime, fulltime and management workers.</p> <ul style="list-style-type: none"> <li>• <b>Case 1:</b> New parttime worker.</li> <li>• <b>Case 2:</b> Repeated parttime worker.</li> <li>• <b>Case 3:</b> New fulltime worker.</li> <li>• <b>Case 4:</b> Repeated fulltime worker.</li> <li>• <b>Case 5:</b> New manager.</li> <li>• <b>Case 6:</b> New department head.</li> <li>• <b>Case 7:</b> New director.</li> <li>• <b>Case 8:</b> Repeated management worker.</li> </ul>	<p><b>Case 1:</b> Doe,John IT 1/1/2020 Parttime 16.50</p> <p><b>Case 2:</b> Doe,John IT 1/1/2020 Parttime 12.75</p> <p><b>Case 3:</b> Scott,Michael ECE 3/9/2001 Fulltime 80000</p> <p><b>Case 4:</b> Scott,Michael ECE 3/9/2001 Fulltime 120000</p> <p><b>Case 5:</b> Patel,Bhumit CS 10/10/2007 Management Manager 160000</p> <p><b>Case 6:</b> Srivatsa,Soorya IT 8/6/1999 Management Dept Head 150000</p> <p><b>Case 7:</b> Smith,John ECE 5/6/2000 Management Director 250000</p> <p><b>Case 8:</b> Patel,Bhumit CS 10/10/2007 Management Manager 130000</p>	<p><b>Case 1</b> prints "Employee added."</p> <p><b>Case 2</b> prints "Employee is already in the list."</p> <p><b>Case 3</b> prints "Employee added."</p> <p><b>Case 4</b> prints "Employee is already in the list."</p> <p><b>Case 5</b> prints "Employee added."</p> <p><b>Case 6</b> prints "Employee added."</p> <p><b>Case 7</b> prints "Employee added."</p> <p><b>Case 8</b> prints "Employee is already in the list."</p>
6	<p>For cases 2-6, the employee list is filled with the workers from test case #4.</p> <p>Test the remove() method for parttime, fulltime and management workers.</p>	<p><b>Case 1 (Empty):</b> Doe,John IT 1/1/2020 Parttime</p> <p><b>(2-6 use Test Case #4 Employee List)</b></p> <p><b>Case 2:</b> Doe,John IT</p>	<p><b>Case 1</b> prints "Employee database is empty."</p> <p><b>Case 2</b> prints "Employee removed."</p>

	<ul style="list-style-type: none"> <li>• <b>Case 1:</b> Remove any worker from an empty employee list.</li> <li>• <b>Case 2:</b> Remove a parttime worker (currently in the list).</li> <li>• <b>Case 3:</b> Remove a parttime worker (Not in the list).</li> <li>• <b>Case 4:</b> Remove a fulltime worker (currently in the list).</li> <li>• <b>Case 5:</b> Remove a fulltime worker (Not in the list).</li> <li>• <b>Case 6:</b> Remove a management worker (currently in the list).</li> <li>• <b>Case 7:</b> Remove a management worker (Not in the list).</li> </ul>	1/1/2020 Parttime <b>Case 3:</b> Doe,John IT 1/1/2020 Parttime  <b>Case 4:</b> Scott,Michael ECE 3/9/2001 Fulltime  <b>Case 5:</b> Scott,Michael ECE 3/9/2001 Fulltime  <b>Case 6:</b> Patel,Bhumit CS 10/10/2007 Management Manager  <b>Case 7:</b> Patel,Bhumit CS 10/10/2007 Management Manager	<b>Case 3</b> prints “Employee does not exist.”  <b>Case 4</b> prints “Employee removed.”  <b>Case 5</b> prints “Employee does not exist.”  <b>Case 6</b> prints “Employee removed.”  <b>Case 7</b> prints “Employee does not exist.”
7	<p>For case 2-7, the employee list is filled with the workers from test case 4.</p> <p>Test the setHours() method for parttime workers. The GUI does not allow fulltime and management workers to use the setHours() method.</p> <ul style="list-style-type: none"> <li>• <b>Case 1:</b> Set hours for a parttime worker in an empty employee list.</li> <li>• <b>Case 2:</b> Set hours for a parttime worker (currently in the list).</li> <li>• <b>Case 3:</b> Set new hours for the “case 2” parttime worker.</li> </ul>	<b>Case 1 (Empty):</b> Doe,John IT 1/1/2020 Parttime 10  <b>(2-7 use Test Case #4 Employee List)</b>  <b>Case 2:</b> Doe,John IT 1/1/2020 Parttime 10  <b>Case 3:</b> Doe,John IT 1/1/2020 Parttime 20  <b>Case 4:</b> Jones,Indiana ECE 5/7/2011 Parttime 30	<b>Case 1</b> prints “Employee database is empty.”  <b>Case 2</b> prints “Working hours set.”  <b>Case 3</b> prints “Working hours set.”  <b>Case 4</b> prints “Employee does not exist.”

	<ul style="list-style-type: none"> <li>• <b>Case 4:</b> Set hours for the parttime worker (Not in the list).</li> </ul>		
8	<p>Test the calculatePayment() method for parttime, fulltime and management workers.</p> <ul style="list-style-type: none"> <li>• <b>Case 1:</b> Parttime employee working under 80 hours (60)</li> <li>• <b>Case 2:</b> Parttime employee working 90 hours (with 10 hours overtime)</li> <li>• <b>Case 3:</b> Fulltime Employee</li> <li>• <b>Case 4:</b> Management Employee (Manager)</li> <li>• <b>Case 5:</b> Management Employee (Dept Head)</li> <li>• <b>Case 6:</b> Management Employee (Director)</li> </ul>	<p><b>Case 1:</b> Parttime Hourly Rate: 25 Hours Worked: 60</p> <p><b>Case 2:</b> Parttime Hourly Rate: 25 Hours Worked: 90</p> <p><b>Case 3:</b> Fulltime Annual Salary: 29500</p> <p><b>Case 4:</b> Management Role: Manager Annual Salary: 90000</p> <p><b>Case 5:</b> Management Role: Dept Head Annual Salary: 90000</p> <p><b>Case 6:</b> Management Role: Director Annual Salary: 90000</p>	<p><b>Case 1 Result:</b> <b>\$1500</b></p> <p><b>Case 2 Result:</b> <b>\$2375</b></p> <p><b>Case 3 Result:</b> <b>\$1134.62</b></p> <p><b>Case 4 Result:</b> <b>\$3653.85</b></p> <p><b>Case 5 Result:</b> <b>\$3826.92</b></p> <p><b>Case 6 Result:</b> <b>\$3923.08</b></p>
9	<p>Test import method for different txt files.</p> <ul style="list-style-type: none"> <li>• <b>Case 1:</b> Empty file</li> <li>• <b>Case 2:</b> File with invalid format.</li> <li>• <b>Case 3:</b> Properly formatted file.</li> <li>• <b>Case 4:</b> No file selected (Closed file chooser early)</li> </ul>	<p><b>Case 1:</b> emptyFile.txt</p> <p><b>Case 2:</b> randomFile.txt</p> <p><b>Case 3:</b> No file</p>	<p><b>Case 1</b> prints <b>“File is empty!”</b></p> <p><b>Case 2</b> prints <b>“Import failed. Invalid file selection.”</b></p> <p><b>Case 3</b> prints <b>“Database imported!”</b></p> <p><b>Case 4</b> prints <b>“Import failed. Invalid file selection.”</b></p>
10	<p>Test export method for different txt files.</p> <ul style="list-style-type: none"> <li>• <b>Case 1:</b> Empty file.</li> </ul>	<p><b>Case 1:</b> emptyFile.txt</p> <p><b>Case 2:</b> randomFile.txt</p>	<p><b>Case 1</b> prints <b>“Payroll processing exported!”</b></p>

	<ul style="list-style-type: none"> <li>• <b>Case 2:</b> File that is not empty.</li> <li>• <b>Case 3:</b> No file selected (Closed file chooser early)</li> </ul>	<b>Case 3:</b> No file	<p><b>Case 2</b> prints “<b>File must be empty!</b>”</p> <p><b>Case 3</b> prints “<b>Export failed. Invalid file selection.</b>”</p>
11	<p>Test print methods with an empty database.</p> <ul style="list-style-type: none"> <li>• <b>Dase 1:</b> Print all employees (empty database)</li> <li>• <b>Case 2:</b> Print by department (empty database)</li> <li>• <b>Case 3:</b> Print by date hired (empty database)</li> </ul>	<p><b>Case 1:</b> All Employees</p> <p><b>Case 2:</b> By Department</p> <p><b>Case 3:</b> By Date Hired</p>	<p><b>Case 1</b> prints “<b>Employee database is empty.</b>”</p> <p><b>Case 2</b> prints “<b>Employee database is empty.</b>”</p> <p><b>Case 3</b> prints “<b>Employee database is empty.</b>”</p>