# Homework: Test Levels and Test Types

## Unit Testing in the Real Life: Testing a Battery

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| --- | --- |
| **Test #1** | Check the battery size. It should comply with the “AA” standard. |
| **Test #2** | Check the battery label. Does it have everything according the “AA” standard? |
| **Test #3** | Check the physical condition. Does it have any damages? |
| **Test #4** | Check the voltage with digital multimeter. Does it comply with the “AA” standard? |
| **Test #5** | Use electric device as a test framework to check if it works with the battery. |

## Unit Testing in the Real Life: Testing a Light Bulb

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| --- | --- |
| **Test #1** | Check the glass to see if it is ok as expected. |
| **Test #2** | Check the metal part. It should comply with the “E10” standard. |
| **Test #3** | Check the internal lighting mechanism. Does it look ok? |
| **Test #4** | Check if the circuit can be closed with digital multimeter. |
| **Test #5** | Use electric device as a test framework to check if it works with the light bulb. |
| **Test #6** |  |
| **Test #7** |  |
| **Test #8** |  |
| **Test #9** |  |
| **Test #10** |  |

## Unit Testing in the Software World: Age Checker

|  |  |
| --- | --- |
| **Test #1** | AgeChecker(-5) 🡪 error |
| **Test #2** | AgeChecker(0) 🡪 child |
| **Test #3** | AgeChecker(6) 🡪 child |
| **Test #4** | AgeChecker(12.5) 🡪 child |
| **Test #5** | AgeChecker(13) 🡪 teenager |
| **Test #6** | AgeChecker(16) 🡪 teenager |
| **Test #7** | AgeChecker(20) 🡪 adult |
| **Test #8** | AgeChecker(35) 🡪 adult |
| **Test #9** | AgeChecker(64.5) 🡪 adult |
| **Test #10** | AgeChecker(65) 🡪 elder |
| **Test #11** | AgeChecker(80) 🡪 elder |
| **Test #12** | AgeChecker(151) 🡪 error |
| **Test #13** | AgeChecker(“ten”) 🡪 error |
| **Test #14** |  |
| **Test #15** |  |
| **Test #16** |  |

## Unit Testing in the Software World: Income Checker

|  |  |
| --- | --- |
| **Test #1** | IncomeChecker(-10) 🡪 error |
| **Test #2** | IncomeChecker(220) 🡪 low |
| **Test #3** | IncomeChecker(990) 🡪 low |
| **Test #4** | IncomeChecker(1000) 🡪 mid |
| **Test #5** | IncomeChecker(2000) 🡪 mid |
| **Test #6** | IncomeChecker(3000) 🡪 high |
| **Test #7** | IncomeChecker(5000) 🡪 high |
| **Test #8** | IncomeChecker(“one hundred”) 🡪 error |
| **Test #9** |  |
| **Test #10** |  |

## Integration Testing in the Real Life: Lighting the Bulb

|  |  |
| --- | --- |
| **Test #1** | Connect the battery directly to the light bulb with 1 wire one way. Check if it is working. |
| **Test #2** | Connect the battery directly to the light bulb with 1 wire the other way. Check if it is not working. |
| **Test #3** | Connect the battery directly to the light bulb with 2 wires one way. Check if it is working. |
| **Test #4** | Connect the battery directly to the light bulb with 2 wires the other way. Check if it is not working. |
| **Test #5** | Connect the battery directly to the light bulb with 3 wires and a switch one way with the switch on. Check if it is working. |
| **Test #6** | Connect the battery directly to the light bulb with 3 wires and a switch one way with the switch off. Check if it is not working. |
|  |  |

## \* Integration Testing in the Software World: Ads

|  |  |
| --- | --- |
| **Test #1** | When press “Login” button it should redirect to user home page. Check if after login the user home page is displayed correctly. |
| **Test #2** | When user tries to login with invalid credentials it should display error. |
| **Test #3** | Check if after press “Logout” button there is displayed successful logout. After that it should displayed the home page of the web app. |
| **Test #4** |  |
| **Test #5** |  |
| **Test #6** |  |
| **Test #7** |  |
| **Test #8** |  |

## \* Integration Testing in the Software World: Credit Risk

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | child | teenager | adult | elder | negative |
| low | 100% | 80% | 55% | 60% | “**error**” |
| mid | 100% | 72% | 37% | 44% | “**error**” |
| high | 100% | 64% | 19% | 28% | “**error**” |
| negative | “**error**” | “**error**” | “**error**” | “**error**” | “**error**” |

## System Testing in the Real Life: Flashlight

|  |  |
| --- | --- |
| **Test #1** | With turned off flashlight, press the button and flashlight turns on. |
| **Test #2** | With turned on flashlight, press the button and flashlight turns off. |
| **Test #3** | Open the flashlight, change the batteries and close the flashlight. |
| **Test #4** | Turn on the flashlight. Leave it for 1 week. Check when it will turn off. |
| **Test #5** | Turn on the flashlight. Check the illumination distance. |
| **Test #6** |  |
| **Test #7** |  |
| **Test #8** |  |
| **Test #9** |  |
| **Test #10** |  |

## System Testing in the Real Life: Digital Scale

|  |  |
| --- | --- |
| **Test #1** | With turned on digital scale, switch on between the different units of measurement. |
| **Test #2** | Open the digital scale, change the batteries and close the digital scale. |
| **Test #3** |  |
| **Test #4** |  |
| **Test #5** |  |
| **Test #6** |  |
| **Test #7** |  |
| **Test #8** |  |

## System Testing in the Software World: Number Calculator

|  |  |
| --- | --- |
| **Test #1** | Test 5 / … |
| **Test #2** | Test … / 5 |
| **Test #3** | Test 4 / 2 |
| **Test #4** | Test 5 / 3 |
| **Test #5** | Test 0 / 10 |
| **Test #6** | Test 10 / 0 |
| **Test #7** | Test 0 / 0 |
| **Test #8** | Test 5 + 4 |

## Acceptance Testing in the Real Life: Flashlight

|  |  |
| --- | --- |
| **Test #1** | With turned off flashlight, press the button 3 times consecutively. The flashlight should turn on. |
| **Test #2** | I want to replace the batteries. Open to check the type of the batteries. Close. |
| **Test #3** | Turn on the flashlight. Drop it on the floor and check for any damages. |
| **Test #4** |  |
| **Test #5** |  |
| **Test #6** |  |

## Acceptance Testing in the Real Life: Digital Scale

|  |  |
| --- | --- |
| **Test #1** | I want to measure my weight. |
| **Test #2** | I want to switch on between the different units of measurement. |
| **Test #3** | I want to replace the batteries. Open to check the type of the batteries. Close. |
| **Test #4** | Turn on the digital scale. Drop it on the floor and check for any damages. |
| **Test #5** |  |
| **Test #6** |  |

## Acceptance Testing in the Software World: Number Calculator

|  |  |
| --- | --- |
| **Test #1** | I want to sum two integers. |
| **Test #2** | I want to divide two integers. |
| **Test #3** | I want to multiply two decimal numbers. |
| **Test #4** | I want to sum two strings. |

## Functional and Non-Functional Tests: Flashlight

**System Testing**

|  |  |
| --- | --- |
| **Functional Tests** | **Non-Functional Tests** |
| With turned off flashlight, press the button and flashlight turns on. | Turn on the flashlight. Leave it for 1 week. Check when it will turn off. |
| With turned on flashlight, press the button and flashlight turns off. | Turn on the flashlight. Check the illumination distance. |
| Open the flashlight, change the batteries and close the flashlight. |  |
|  |  |

**Acceptance Testing**

|  |  |
| --- | --- |
| **Functional Tests** | **Non-Functional Tests** |
| With turned off flashlight, press the button 3 times consecutively. The flashlight should turn on. | Turn on the flashlight. Drop it on the floor and check for any damages. |
| I want to replace the batteries. Open to check the type of the batteries. Close. |  |
|  |  |
|  |  |