# 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 in the AA standard.** |
| **Test #3** | **Check the physical condition. Does it have any damages on it.** |
| **Test #4** | **Check the voltage with digital multimeter. Does it comply with the AA standard.** |
| **Test #5** | **Use external device as a test framework. Does it work with the battery.** |

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

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| --- | --- |
| **Test #1** | **Check the glass if it isn’t broke.** |
| **Test #2** | **Check the metal part if look good as per the E10 standard.** |
| **Test #3** | **Check the internal lightning mechanism if look good.** |
| **Test #4** | **Check if the circuit can be closed with digital multimeter.** |
| **Test #5** | **Use external device as a test framework. Does it work with the light bulb.** |
| **Test #6** | **Check if the size of the light bulb is in standard.** |
| **Test #7** |  |
| **Test #8** |  |
| **Test #9** |  |
| **Test #10** |  |

## Unit Testing in the Software World: Age Checker

|  |  |
| --- | --- |
| **Test #1** | **AgeChecker(0) 🡪 child** |
| **Test #2** | **AgeChecker(7) 🡪 child** |
| **Test #3** | **AgeChecker(13) 🡪 teenager** |
| **Test #4** | **AgeChecker(19.5) 🡪 teenager** |
| **Test #5** | **AgeChecker(20) 🡪 adult** |
| **Test #6** | **AgeChecker(64.5) 🡪 adult** |
| **Test #7** | **AgeChecker(65) 🡪 elder** |
| **Test #8** | **AgeChecker(149) 🡪 adult** |
| **Test #9** | **AgeChecker(150) 🡪 error** |
| **Test #10** | **AgeChecker(200) 🡪 error** |
| **Test #11** | **AgeChecker(0) 🡪 child** |
| **Test #12** | **AgeChecker(-10) 🡪 error** |
| **Test #13** | **AgeChecker(“two”) 🡪 error** |
| **Test #14** |  |
| **Test #15** |  |
| **Test #16** |  |

## Unit Testing in the Software World: Income Checker

|  |  |
| --- | --- |
| **Test #1** | **IncomeChecker(0) -> low** |
| **Test #2** | **IncomeChecker(999) -> low** |
| **Test #3** | **IncomeChecker(1000) 🡪 mid** |
| **Test #4** | **IncomeChecker(2999.99) 🡪 mid** |
| **Test #5** | **IncomeChecker(3000) 🡪 high** |
| **Test #6** | **IncomeChecker(10000) 🡪 high** |
| **Test #7** | **IncomeChecker(-2000) 🡪 error** |

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

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| --- | --- |
| **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 reverse 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 reverse 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** |  |
| **Test #2** |  |
| **Test #3** |  |
| **Test #4** |  |
| **Test #5** |  |
| **Test #6** |  |
| **Test #7** |  |
| **Test #8** |  |

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

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **child** | **teenager** | **adult** | **elder** | **error** |
| **low** | **100%** | **80%** | **55%** | **60%** | **error** |
| **mid** | **100%** | **60%** | **37%** | **44%** | **error** |
| **high** | **100%** | **40%** | **19%** | **28%** | **error** |
| **error** | **error** | **error** | **error** | **error** | **error** |

## System Testing in the Real Life: Flashlight

|  |  |
| --- | --- |
| **Test #1** | **With turned off flashlight, press the button and the flashlight turns on.** |
| **Test #2** | **With turned on flashlight, press the button and the flashlight turns off.** |
| **Test #3** | **When I remove the batteries, the flashlight should not work.** |
| **Test #4** | **When I put the batteries, the flashlight should not work.** |
| **Test #5** | **Check if the flashlight battery covid opens.** |
| **Test #6** | **Check if you can replace the bulb with new one.** |
| **Test #7** | **Turn on the flashlight. Leave if for 1 week, check it will turn off.** |
| **Test #8** | **Check how far the flashlight can shine** |
| **Test #9** |  |
| **Test #10** |  |

## System Testing in the Real Life: Digital Scale

|  |  |
| --- | --- |
| **Test #1** | **Check if the weight scale is not broken.** |
| **Test #2** | **Check if has batteries.** |
| **Test #3** | **Check with something lightly like feather.** |
| **Test #4** | **Check with something heavy.** |
| **Test #5** | **Check with your weight.** |
| **Test #6** | **Check the maximum of the weight scale.** |
| **Test #7** |  |
| **Test #8** |  |

## System Testing in the Software World: Number Calculator

|  |  |
| --- | --- |
| **Test #1** | Check every function if work with integers. |
| **Test #2** | Check every function if work with decimals. |
| **Test #3** | Check every function if work first number to be integer and the second decimal. |
| **Test #4** | Check every function if work with negative integers and decimals. |
| **Test #5** | Check If can do something without any to enter a function. |
| **Test #6** | Check with invalid inputs like you write a text of number “two” or 0 divided 0 |
| **Test #7** | Check if you divide of zero if you will receive an infinity result. |
| **Test #8** | Try if the buttons Calculate and Reset are working. |

## Acceptance Testing in the Real Life: Flashlight

|  |  |
| --- | --- |
| **Test #1** | **With turned off flashlight, press the button three 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** |  |
| **Test #4** |  |
| **Test #5** |  |
| **Test #6** |  |

## Acceptance Testing in the Real Life: Digital Scale

|  |  |
| --- | --- |
| **Test #1** |  |
| **Test #2** |  |
| **Test #3** |  |
| **Test #4** |  |
| **Test #5** |  |
| **Test #6** |  |

## Acceptance Testing in the Software World: Number Calculator

|  |  |
| --- | --- |
| **Test #1** |  |
| **Test #2** |  |
| **Test #3** |  |

## Functional and Non-Functional Tests: Flashlight

|  |  |
| --- | --- |
| **Functional Tests** | **Non-Functional Tests** |
| **With turned off flashlight, press the button and the flashlight turns on.** | **Turn on the flashlight. Leave if for 1 week, check it will turn off.** |
| **With turned on flashlight, press the button and the flashlight turns off.** | **Check how far the flashlight can shine** |
| **Open the flashlight, change the batteries, close the flashlight.** |  |
| **Check if you can replace the bulb with new one.** |  |