# Homework: Software Quality Assurance Introduction

## Think Testing: Gas Station

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| **Problem #1** | The woman has put the wrong fuel in the car. |
| **Problem #2** | The car has a mechanical issue. |
| **Problem #3** | The woman tries to start the wrong car. |
| **Problem #4** | The car got stolen. |
| **Problem #5** | The keys are missing. |
| **Problem #6** | There is something wrong with the woman. |

## Think Testing: Tooth Brushing

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| **Step #1** | Take the toothpaste. |
| **Step #2** | Unscrew the lid. |
| **Step #3** | Put down the lid. |
| **Step #4** | Take the toothbrush. |
| **Step #5** | Put very little toothpaste on the toothbrush. |
| **Step #6** | Open your mouth. |
| **Step #7** | Put the toothbrush on your left teeth. |
| **Step #8** | Close your mouth. |
| **Step #9** | Start brushing. |
| **Step #10** | Put the toothbrush on your right teeth. |
| **Step #11** | Start brushing. |
| **Step #12** | Wash your mouth with water. |
| **Step #13** | Spit the water. |
| **Step #14** | Close the toothpaste. |
| **Step #15** | Put the toothbrush and the toothpaste back in place. |

## Think Testing: 5 Kg Bag

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| **Test #1** | Put 2kg products in the bag and test if it is not tearing apart. |
| **Test #2** | Put 5kg product in the bag and test if it is not tearing apart. |
| **Test #3** | Put 5kg +100g product in the bag and test if it is tearing apart. |

## Login Form UX Problems

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| **Problem #1** | The website name is “My Wonderful Shop” – the website address is “your-wonderful-shop.com” |
| **Problem #2** | Login form address should not be “add to basket” |
| **Problem #3** | The buttons are not aligned. |
| **Problem #4** | There should not be log out button. |
| **Problem #5** | Password is above username. |

## Weather Forecast Bug

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| **Mistake** | The developer made the following mistake: Did not convert the degrees to Celsius. |
| **Bug (location)** | The bug in the code should be in the module / function, responsible for: degree conversion |
| **Failure (symptoms)** | When the buggy code goes in production, it fails as follows: it shows wrong temperature data. |

## Age Checking Machine

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| The mistake is not including age equal to 18.  The wrong logic in the code is called “a Bug”.  It will result in failure at age equal to 18. |

## Testing an Electric Water Kettle

### Test Scenario #1: Boil Water

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| Test case #1 | **Boil 1 liter of water 🡪 success** |
| Description | Pour 1 liter of water, start the kettle, and wait until it gets hot. |
| Steps | 1. Fill 1 liter of cold water in the kettle and close the boiler lid. 2. Plug the power base in the electrical network. 3. Plug the boiler into the power base. 4. Switch on the kettle. 5. Wait until the water gets hot and the kettle automatically switches off (2-3 minutes). |
| Expected results | The boiling process should complete in less than 4 minutes.  The water should get hot.  The kettle should automatically power off when the water gets too hot.  The kettle lid should stay closed. |

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| Test case #2 | **Boil an empty kettle 🡪 fail** |
| Description | Start the kettle without water. The kettle should turn of automatically. |
| Steps | 1. Pour out all the water in the kettle. 2. Plug the power base in the electrical network. 3. Plug the boiler into the power base. 4. Switch on the kettle. 5. The kettle automatically switches off. |
| Expected results | There should not be any boiling process.  The kettle should automatically power off due to missing water within 0.5 to 2 seconds.  The kettle lid should stay closed. |
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| Test case #3 | **Boil 0.19l of water -> fail** |
| Description | Start the kettle with 0.19l water. The kettle should turn of automatically. |
| Steps | 1. Open the lid with the button. 2. Fill 0.19 liter of cold water in the kettle and close the boiler lid. 3. Plug the power base in the electrical network. 4. Plug the boiler into the power base. 5. Switch on the kettle. 6. The kettle automatically switches off. |
| Expected results | There should not be any boiling process.  The kettle should automatically power off due to low water within 0.5 to 2 seconds.  The kettle lid should stay closed. |

### Test Scenario #2: Lid Test

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| **Test case #1** | **Open lid ->success** |
| Description | Press the open lid button. The lid opens |
| Steps | 1. Press the open lid button 2. Watch the lid open |
| Expected results | The lid should open. |

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| **Test case #2** | **Open lid without button pressed ->fail** |
| Description | Do not press the open lid button. The lid opens. |
| Steps | 1. Do not press the open lid button 2. Watch the lid opens. |
| Expected results | The lid should open. |

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| **Test case #3** | **Close lid ->success** |
| Description | Press the lid with hand. The lid should close. |
| Steps | 1. Press the lid with hand 2. Confirm the lid is closed |
| Expected results | The lid should close. |

### Test Scenario #3: Use the Base

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| **Test case #1** | **Kettle on with base plugged in -> success** |
| Description | Turn the kettle on while on the base and the base is plugged in. |
| Steps | 1. Plug the base to the electrical network 2. Put the boiler into the power base. 3. Switch on the kettle. |
| Expected results | The kettle should turn on. |

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| **Test case #2** | **Kettle off with base plugged out -> fail** |
| Description | Turn the kettle on while on the base and the base is plugged out. |
| Steps | 1. Do not plug the base to the electrical network 2. Put the boiler into the power base. 3. Switch on the kettle. |
| Expected results | The lid should not turn on. |

### Test Scenario #4: Use the power button

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| **Test case #1** | **Turn on the kettle by pressing the power button -> success** |
| Description | Turn on the kettle by pressing the power button. |
| Steps | 1. Put the kettle on the base. 2. Plug the base into the electric network. 3. Put the boiler into the power base. 4. Switch on the kettle. |
| Expected results | The kettle should turn on. |

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| **Test case #2** | **Turn off the kettle by pressing the power button -> success** |
| Description | Turn the kettle off by pressing the power button. |
| Steps | 1. While the kettle is on, press the power button. |
| Expected results | The kettle should turn off. |

## Testing a Coffee Machine

### Test Scenario #1: Brew a Coffee

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| **Test case #1** | **Brew a small coffee 🡪 success** |
| Description | Start the coffee machine, put water, put ground coffee in the outlet, and brew a cup of coffee. |
| Steps | 1. Power on the machine. 2. Put ground coffee blend in the coffee outlet. 3. Fill the water container to its max level. 4. Wait until the "hot water" indicator lights up. 5. Put an empty coffee cup under the coffee outlet. 6. Press the "brew small coffee" button. 7. Wait until the brew process finishes. |
| Expected results | The brew process should complete in less than 50 seconds.  The coffee cup should hold a hot small coffee (60 ml).  The machine should stay powered on.  The "hot water" indicator light could be on or off (both states are correct).  The machine should have enough water in its water container (it should not beep). |

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| **Test case #2** | **Brew a long coffee 🡪 success** |
| Description | Start the coffee machine, put water, put ground coffee in the outlet, and brew a cup of coffee. |
| Steps | 1. Power on the machine. 2. Put ground coffee blend in the coffee outlet. 3. Fill the water container to its max level. 4. Wait until the "hot water" indicator lights up. 5. Put an empty coffee cup under the coffee outlet. 6. Press the "brew long coffee" button. 7. Wait until the brew process finishes. |
| Expected results | The brew process should complete in less than 60 seconds.  The coffee cup should hold a hot long coffee (120 ml).  The machine should stay powered on.  The "hot water" indicator light could be on or off (both states are correct).  The machine should have enough water in its water container (it should not beep). |

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| **Test case #3** | **Brew a small coffee with no water 🡪 fail** |
| Description | Start the coffee machine, empty the water container, try to brew a cup of coffee, expect the coffee machine to start beeping to indicate that the water is not enough. |
| Steps | 1. Power on the machine. 2. Put ground coffee blend in the coffee outlet. 3. Empty the water container. 4. Press the "brew small coffee" button. 5. Wait the coffee machine to start beeping. |
| Expected results | The machine should start beeping.  The beeping is on intervals of 10 seconds.  The beeping continues until the machine is powered off or water is filled inside the container. |

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| **Test case #4** | **Brew a long coffee with no water 🡪 fail** |
| Description | Start the coffee machine, empty the water container, try to brew a cup of coffee, expect the coffee machine to start beeping to indicate that the water is not enough. |
| Steps | 1. Power on the machine. 2. Put ground coffee blend in the coffee outlet. 3. Empty the water container. 4. Press the "brew long coffee" button. 5. Wait the coffee machine to start beeping. |
| Expected results | The machine should start beeping.  The beeping is on intervals of 10 seconds.  The beeping continues until the machine is powered off or water is filled inside the container. |

### Test Scenario #2: Machine On / Off

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| Test case #1 | **Switch off 🡪 check light indicator** |
| Description | Switch off the coffee machine. The light indicator should power off. |
| Steps | 1. The machine should be turned on 2. The light indicator should be on 3. Press the switch off button. 4. The machine should power off |
| Expected results | The machine should power off |

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| Test case #2 | **Switch on with no water 🡪 beeping** |
| Description | Switch on the machine with no water in the container. |
| Steps | 1. Empty the water container. 2. Push the on button. 3. The machine starts beeping. |
| Expected results | The machine starts beeping.  The machine stops beeping when you put water in the container.  The machine stops beeping when the off button is pished. |

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| Test case #3 | **Switch on 🡪 hot water indicator light**" is **on**. |
| Description | Switch on the machine with water in the container. |
| Steps | 1. Fill the water container 2. Put coffee in the coffee outlet 3. Switch the on button 4. Hot water indicator light should be on after no more than 2 minutes. |
| Expected results | Hot water indicator light is off.  Hot water indicator light should be on after no more than 2 minutes. |