# Homework: Software Quality Assurance Introduction

## Think Testing: Gas Station

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| **Problem #1** | The woman has put a 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 woman lost the key. |
| **Problem #5** | The car got stolen. |
| **Problem #6** | There is something wrong with the women. |

## Think Testing: Tooth Brushing

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| **Step #1** | The cap of the toothpaste opens. |
| **Step #2** | Leave the cap on the sink. |
| **Step #3** | Turn on the water. |
| **Step #4** | Wet the toothbrush. |
| **Step #5** | Hold the toothbrush with your left hand and gently press the toothpaste with your right. |
| **Step #6** | Put a very small amount (the size of a pea) of toothpaste on the toothbrush. |
| **Step #7** | Leave the toothpaste on the sink. |
| **Step #8** | Rinse mouth with water. |
| **Step #9** | Turn off the water. |
| **Step #10** | Rub the toothpaste vigorously on the teeth for at least 3 minutes. |
| **Step #11** | Turn on the water. |
| **Step #12** | Rinse mouth with water. |
| **Step #13** | Wash the toothbrush. |
| **Step #14** | Put the toothbrush away. |
| **Step #15** | Close the toothpaste cap. |
| **Step #16** | Put the toothpaste away. |
| **Step #17** | Check in the mirror that you have washed the toothpaste off your entire face. |
| **Step #18** | Wash your hands. |
| **Step #19** | Turn off the water. |
| **Step #20** | Dry your face with a face towel. |

## Think Testing: 5 Kg Bag

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| **Test #1** | Put 2 kg products in the bag and test if it is not tearing apart. |
| **Test #2** | Put 5 kg products in the bag and test if it is not tearing apart. |
| **Test #3** | Put 5.100 kg products 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: they 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 show wring 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. Open the lid with the button. 2. Fill 1 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. Wait until the water gets hot (2-3 minutes). 7. Wait until the water gets hot and the kettle automatically switches off. |
| 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 off 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 secomds.  The kettle lid should stay closed. |

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| Test case #3 | **Boil 0.19l water 🡪 fail** |
| Description | Start the kettle without water. The kettle should turn off 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 missing water within 0.5 to 2 secomds.  The kettle lid should stay closed. |

### Test Scenario #2: Use the Lid

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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 be open. |

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| Test case #2 | **Closed lid 🡪 success** |
| Description | Press the lid with a hand. The lid should close. |
| Steps | 1. Press the lid with a hand. 2. Confirm the lid is closed. |
| Expected results | The lid should be close. |

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| Test case #3 | **Turn On kettle** **🡪 success** |
| Description | Press the power button. The kettle is on. |
| Steps | 1. Press the power button. 2. Watch the kettle is on. |
| Expected results | The kettle should is on. |

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| Test case #4 | **Turn Off kettle** **🡪 success** |
| Description | Press the power button. The kettle is off. |
| Steps | 1. Press the power button. 2. Watch the kettle is off. |
| Expected results | The kettle should is off. |

### 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 power base in the electrical network. 2. Plug 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 on 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 power base in the electrical network. 2. Plug the boiler into the power base. 3. Switch on the kettle. |
| Expected results | The kettle should NOT turn on. |

## 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 in its water container (it should not beep). |

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| Test case #2 | **Brew a 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. Pour out all the water in the container. 3. Put ground coffee blend in the coffee outlet. 4. Put an empty coffee cup under the coffee outlet. 5. Press the “brew small coffee” button. 6. Wait until the brew process finishes. |
| Expected results | The machine should beep (10 seconds).  The machine should stay powered on.  The light indicator for "hot water" is switched off.  The machine should not dispense coffee into the cup.  The cup should remain empty. |

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| Test case #3 | **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 small coffee” button. 7. Wait until the brew process finishes. |
| Expected results | The brew process should complete in less than 70 seconds.  The coffee cup should hold a hot small 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 in its water container (it should not beep). |

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| Test case #4 | **Brew coffee with a little water in the container 🡪 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 min level + 50 ml. 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 beep (10 seconds). |

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

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| Test case #1 | **Checking the switch for off 🡪 success** |
| Description | Power off the coffee machine, put water, put ground coffee in the outlet, and brew a cup of coffee. |
| Steps | 1. Power off the machine. 2. Wait for a while to see if the indicator lights up. |
| Expected results | The machine is turned off. |

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| Test case #2 | **Checking the switch for ON 🡪 success** |
| Description | Power off the coffee machine. |
| Steps | 1. Power off the machine. 2. Wait for a while to see if the indicator lights up. |
| Expected results | The machine is turned on. |

### Test Scenario #3: Hot water indicator light On / Off

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| Test case #1 | **Checking the hot water indicator light is off 🡪 success** |
| Description | Power on the coffee machine. |
| Steps | 1. Power on the machine. 2. Check that the hot water indicator light is on. |
| Expected results | Hot water indicator light is off. |

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| Test case #2 | **Checking the hot water indicator light is on 🡪 success** |
| Description | Power on 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. Check that the hot water indicator light is on. |
| Expected results | Hot water indicator light is on. |