

# SOFT410911: Software Quality Assurance 2022-Fall

## Homework-3 Solutions

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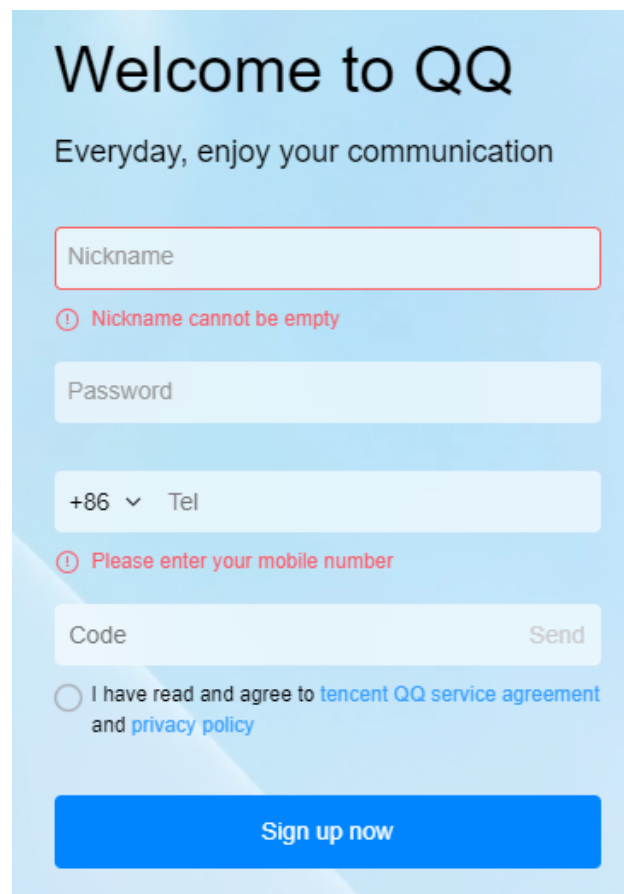
**Honor Code:** I promise that I finished the homework solutions on my own without copying other people's work.

### Equivalence partitioning

#### 1. Topic: from Idea to Reality

In HW-2, I chose creation account as topic of my test list and divided them into distinct kinds. In this homework, I will reuse this idea but in a more real circumstance — creating QQ account. (<https://zc.qq.com/chs/index.html>)

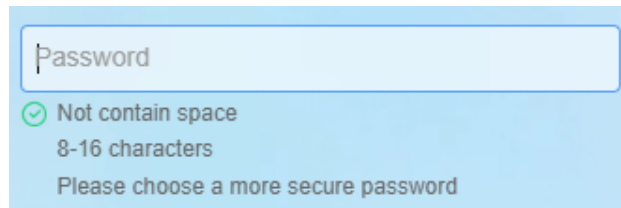
#### 2. Observation for Input Partition



The screenshot shows the QQ registration interface. At the top, it says 'Welcome to QQ' and 'Everyday, enjoy your communication'. Below this are four input fields: 'Nickname', 'Password', '+86 Tel' (with a dropdown arrow), and 'Code'. The 'Code' field has a 'Send' button next to it. Below the 'Code' field is a radio button and the text 'I have read and agree to [tencent QQ service agreement](#) and [privacy policy](#)'. At the bottom is a large blue button labeled 'Sign up now'.

There are several input fields:

1. **Nickname.** After several tests, it seems that there is no limitation for nickname except **cannot be empty.**
2. **Password.** 3 limitation of Password as below.



A screenshot of a password input field. The field is labeled "Password" and contains a cursor. Below the field, there are three validation rules: a green checkmark icon followed by "Not contain space", "8-16 characters", and "Please choose a more secure password".

3. **Tel.** After pressing the send button of Code, it will examine whether the phone number is valid.
  - **Country of Tel.**
4. **Code.** Input should be identified with the sent code.
  - **Security Verify.** Drag a icon to given place.



5. **Service Agreement.** Should be accepted.

### 3. Equivalence Partitioning Test List

	valid partition	invalid partition
Nickname	not empty	empty
Password Length	8-16	>8, <16
Password char	not contain space	contain space
Password Security	secure (as stipulated inside)	not secure enough
Tel	valid number after check	invalid number
Agreement	Accept	Not Accept
Code	same as a random number	others
Security Verify	close to certain space	far

### 4. Exact Test & Test Results

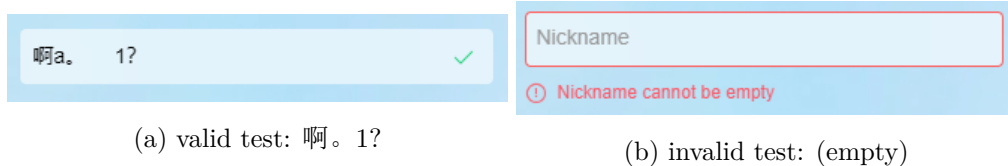


图 1: test for Nickname

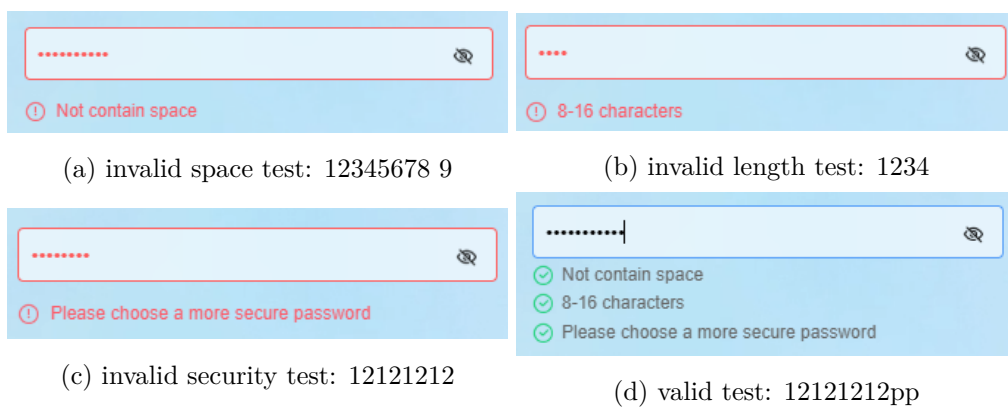


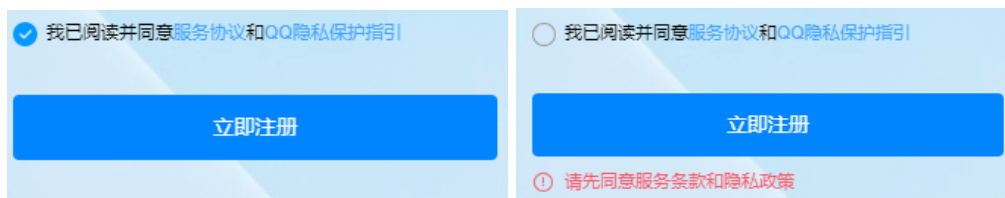
图 2: test for Password

(another invalid length test: but input is not allowed for more than 16 characters)



(a) valid test: 183941\*\*\*\*(my own Tel) (b) invalid test: 12345678909

图 3: test for Tel



(a) valid test: (accept) (b) invalid test: (not accept)

图 4: test for Agreement



图 5: test for Code

Here QQ detects that my Tel registered an account,  
so it asks me to send a code to it,  
which is definitely secure.



(a) valid test: (passed)

(b) invalid test: (far)

图 6: test for Verification

## 5. Summary

After comparing Equivalence Partitioning Test List with my original test list, I found some advantages and disadvantages of Equivalence Partitioning Test.

- Advantages: Efficiently decrease test cases. In this instance, decrease 22 to 8.
- Disadvantages
  - Can't contain all possible input which may lead to a missing bug.
  - Don't test around bound.

## Other things

$\text{\LaTeX}$  code refer to these things and was compiled on texlive2020 by xelatex.

- [UCB-CS70's given homework template.](#)
- [A free website useful to edit  \$\text{\LaTeX}\$  table code.](#)

The purpose of writing in English is to adapt to bilingual teaching and to improve my poor English writing skills in preparation for a possible future exchange program.

Thanks for your correcting and grading :).