Class Notes

Agenda

1. Principles of testing – what is good testing
2. Test techniques – test design
3. Levels of testing – unit testing
4. Agile – CICD – Devops – Shift left testing
5. Tooling – automated testing
6. Test management
7. Test maturity

Software testing – where mistakes are made

Security testing – adversarial

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1. Three inputs
2. Numeric
3. Integers
4. Sides of a Triangle

1. (2,2,2) -> e

2. (2,3,4) ->s

3. (2,2,3) ->i

4. (2,3,2) ->i

5. (3,2,2) ->i

100. (2,2,2,2) -> X

101. (2,2) ->X

102. (x,2,2) ->X

103. (2,x,2) ->x

104. (2,2,x) ->x

102. (2.5,2,2) ->X

103. (2,2.3,2) ->x

104. (2,2,2.5) -> X

102. (0,2,2) ->X

103. (2,0,2) ->x

104. (2,2,0) ->x

102. (-2,2,2) ->X

103. (2,-2,2) ->x

104. (2,2,-2) ->x

106 (1,1,2)-> x

107 No input ->x

The Japanese push bottles up the Chinese

United States

UsofA

Les etats unis

Untied States of America

Chili Chile

[0,1,2,3]

[1,2,3,4]

Parts systems.

Bin

1. Bin number is a string that is 6-8 characters long

2. The first three characters are either DET for Detroit or CHI for Chicago. The routing depends on code

3, The fourth char is either “*” or “/” because there were two legacy system. They are interchangeable

4. The fifth char is a letter in the range A-P which a product category

5. The last three chars are all digits or trailing blanks that are aisle number.

6, The system is NOT case sensitive

7. Invalid codes are rejected and an error report generated.

Input One Categorical

1. It is CHI

- length = 3

- upper or lower case alphabetic chats

~~2. It is DET~~

- length = 3

- upper or lower case alphabetic chats

too short

too long

not alpabetic

neither valid c

Input Two Categorical

~~3. [* , /]~~

Input Three Categorical

4.~~ list of {a,b,...p,A,B,..P}~~

Input Four Categorical

~~5. 1 to 3 digits~~

no embedded blaks

1. DET/a000

2. chi*P9

3. chi*p

4. DET/a0000

5. D3T/a000

6   ci *P9

DAL/a000

2^n -1

Abuse cases.

*Rod goes to wwww.bank.com and enters his login name "CoolDude" and password "DoggyTreats" into the login screen. At the main screen, the user selects Pay Bills from the menu bar. At the pay bills screen, the user selects ATT to be paid from the drop-down list, selects the Checking account ending in *897 to take the payment from from another drop-down list, and enters $48.79 to be paid in the appropriate text field. After selecting proceed, the user will see a summary of the transaction and request to confirm the payment. Clicking on the confirm button causes the payment to be submitted and the user then sees a screen showing the details of the payment just processed.*

User Acceptance Testing

1. Usability testing
2. end to end testing
3. Interface testing

Integration Testing versus e2e testing

IT is about functionality

- totally automated

- functionality – test interface NOT the user interface e2e Testing

- Assumes all the functionality works

- Everything works but the question does the user like how it works?

Testing Process

1. Unit testing – functional testing of components
    1. Requires test cases for each components
2. Integration testing
    1. Acceptance test cases

Line of Credit Calculator

>= %50k

>= 740

>=180

rejected or quality for 10% of income

(50k, 750,180)

(49,999,750,180)

(50k, 749,180)

(50k, 750,179)

Testing Project

1. Testing management assessment.
    1. Well development – being follow
    2. Documentation and data retention

   3. Spec inspection – set of acceptance
2. Unit testing at the component – shift left testing – testing as we build
3. Integration test component
4. UAT
   1. Usability testing
   2. User hands on testing
   3. Interface testing
   4. e2e tests in a test environment
      1. Performance testing – non functional testing
   5. e2e in a near prod or prod.
      1. In near prod non-function
   6. Deployment testing
      1. Beta testing
      2. Canary testing
      3. Blue green
      4. non-functional monitoring