Black-Box Testing

Category-Partition Method

1. Identify independently testable features
2. Identify categories
3. Partition categories into choices
4. Identify constraints among choices
5. Produce and evaluate test case specifications
6. Generate test cases from test case specifications

Example from Video Lecture

|  |  |
| --- | --- |
| Identify Independently Testable Feature | split(string str, int size) |
| Identify inputs | Inputs:   1. str 2. size |
| Identify Categories (characteristics of each input element, somewhat subjective, identify characterics that are meaningful and cover main aspects of the inputs) | Inputs:   1. str   Categories:   1. Length 2. Content 3. size   Category:   1. Value |
| Partition Categories into Choices (Identify Interesting Cases, e.g. subdomains) | Inputs:   1. str   Categories:   1. Length   Choices   1. 0 2. size-1 3. size 4. size+1 5. 2\*size-1 6. ... 7. Content   Choices:   1. spaces 2. special characters 3. ... 4. size   Category:   1. Value   Choices:   1. 0 2. >0 3. <0 4. MAXINT 5. ... |

Example from Project

CheckoutBook(Book, LibraryCard, Member)

1. Book
2. Status
3. Available
4. On Hold [property onHold]
5. Invalid [error][property invalidBook]
6. Library Card
7. Status
8. Valid
9. Invalid [error][if !invalidBook]
10. Member
11. Status
12. Good Standing
13. Suspended due to overdue fines [single][if !onHold]
14. Suspended due to lost book [single][if !onHold]
15. Suspended general [single][if !onHold]
16. Num Books
17. 0-9
18. 10 [error][if !onHold]

Input File for TSL Program

# Book

Book Status:

Available.

On Hold. [property onHold]

Invalid. [error]

# Library Card

Card Status:

Valid.

Invalid. [error]

# Member

Member Status:

Good Standing.

Suspended Overdue. [single][if !onHold]

Suspended Lost Book. [single][if !onHold]

Suspended General. [single][if !onHold]

Num Books:

0-9.

10. [if !onHold]

Test Specification Generated From TSL Program

Test Case 1 <error>

Book Status : Invalid

Test Case 2 <error>

Card Status : Invalid

Test Case 3 <single>

Member Status : Suspended Overdue

Test Case 4 <single>

Member Status : Suspended Lost Book

Test Case 5 <single>

Member Status : Suspended General

Test Case 6 (Key = 1.1.1.1.)

Book Status : Available

Card Status : Valid

Member Status : Good Standing

Num Books : 0-9

Test Case 7 (Key = 1.1.1.2.)

Book Status : Available

Card Status : Valid

Member Status : Good Standing

Num Books : 10

Test Case 8 (Key = 2.1.1.1.)

Book Status : On Hold

Card Status : Valid

Member Status : Good Standing

Num Books : 0-9