SE4452A

Software Verification and Validation

Fall 2016

Assignment #2

Nov. 25, 2016

# Equivalence class testing

<class>: <test value> <range of class>

## AccountStatus

invalid: -5 [-∞ to -1]

poor: 100 [0 to 700]

fair: 800 [701 to 3000]

good: 5000 [3001 to 10,000]

very good: 11,000 [10,001 to +∞]

## getAgeFactor

-1: -5 [-∞ to -1], [101, +∞]

1: 0 [0]

5: 1 [1]

10: 3 [2, 4]

20: 8 [5, 9]

50: 99 [10, 100]

## getBalanceFactor

-1: -200 [-∞ to -101], [1billion to +∞]

6: -50 [-100 to 0]

16: 400 [1 to 999]

30: 1200 [1000 to 49,999]

70: 51000 [50,000 to 99,999]

200: 101000 [100k to <1M]

500: 2M [>1M]

## creditStatus

bad, restricted: 700 [<750]

bad, default: 600 [<700]

good, restricted: 760 [>=750]

good, default: 800 [>=700]

invalid: [-∞, -1], [801, +∞],

creditCheckMode != restricted or default

## productStatus

sold-out: 0 [0]

limited: storethreshold – 5 [<storethreshold]

available: storethreshold + 5 [>storethreshold]

## orderHandling

accepted: accountStatus ← ‘very good’

pending: accountStatus ← ‘good’, creditStatus ← ‘good’, productStatus ← ‘limited’

underReview: accountStatus ← ‘fair’, creditStatus ← ‘bad’, productStatus ← ‘available’

rejected: accountStatus ← ‘poor’, creditStatus ← ‘bad’

# Boundary values testing

<class>: <boundary values>

## AccountStatus

invalid: -1

poor: 0, 700

fair: 701, 3000

good: 3001, 10000

very good: 100001

## getAgeFactor

-1: -1, 101

1: 0

5: 1

10: 2, 4

20: 5, 9

50: 10, 100

## getBalanceFactor

-1: -101, 1,000,000,001

6: -100, 0

16: 1, 999

30: 1000, 49,999

70: 50,000, 99,999

200: 100k, 1M

500: 1,000,001

## creditStatus

bad, restricted: 749

bad, default: 699

good, restricted: 750

good, default: 700

invalid: -1, 801, 500

## productStatus

sold-out: 0 [0]

limited: storethreshold – 1

available: storethreshold + 1

# Decision Table testing

<state>: <variable assignments>

## orderHandling

accepted: accountStatus ← ‘very good’

accepted: accountStatus ← ‘good’, creditStatus ← ‘good’

accepted: accountStatus ← ‘poor’, creditStatus ← ‘good’, productStatus ← ‘limited’

pending: accountStatus ← ‘fair’, creditStatus ← ‘good’, productStatus ← ‘limited’

pending: accountStatus ← ‘fair’, creditStatus ← ‘good’, productStatus ← ‘sold-out  
pending: accountStatus ← ‘poor’, creditStatus ← ‘good’, productStatus ← ‘limited’

underReview: accountStatus ← ‘good’, creditStatus ← ‘bad’

underReview: accountStatus ← ‘fair’, creditStatus ← ‘bad’, productStatus ← ‘available

rejected: accountStatus ← ‘fair’, creditStatus ← ‘bad’, productStatus ← ‘sold-out’

rejected: accountStatus ← ‘fair’, creditStatus ← ‘bad’, productStatus ← ‘limited’

rejected: accountStatus ← ‘poor’, creditStatus ← ‘good’, productStatus ← ‘sold-out’

rejected: accountStatus ← ‘poor’, creditStatus ← ‘bad’

invalid: accountStatus ← ‘invalid’

invalid: creditStatus ← ‘invalid’

invalid: productStatus ← ‘invalid’

invalid: accountStatus ← ‘random’