Desicion Table

Example 1

Registration of car insurance as follows: the basic cost of insurance - 1000 UAH, if the car is older than 5 years - the amount increases by 5%, if older than 7 years - by 10%, older than 10 years - by 20%. Insurance older than 12 years is not issued. The presence of an accident last year increases insurance by 12%. The presence of a pension certificate is reduced by 30%.

Solution:

Car is less than 5 years																	+	+	+	+
Car is older than 5 years													+	+	+	+				
Car is older than 7 years									+	+	+	+								
Car is older than 10 years					+	+	+	+												
Car is older than 12 years	+	+	+	+																
Car accident	+	+	-	-	+	+	-	-	+	+	-	-	+	+	-	-	+	+	-	-

last year																			
Pension certificate	+	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-
Result (the basic cost of insurance - 1000 UAH)	-	-	-	-	1020 UAH (1000 UAH + 20% + 12% - 30%)	1320 UAH (1000 UAH + 20% + 12%)	900 UAH (1000 + 20% - 30%)	1200 UAH (1000 + 20%)	920 UAH (1000 UAH + 10% + 12% - 30%)	1220 UAH (1000 UAH + 10% + 12%)	800 UAH (1000 UAH + 10% - 30%)	1100 UAH (1000 UAH + 10%)	870 UAH (1000 + 5% + 12% - 30%)	1270 UAH (1000 UAH + 5% + 12%)	750 UAH (1000 UAH + 5% - 30%)	1050 UAH (1000 UAH + 5%)	820 UAH (1000 UAH + 12% - 30%)	1120 UAH (1000 UAH + 12%)	700 (1000 - 30%)	1000

Example 2

You are currently working with a web-based retail company that recently created an online shopping portal. The user is only allowed to use one **form of payment**, *credit card or debit card (with PIN)*. The system interfaces with the warehouse software system to verify **items are in- stock** *prior to confirming the order*. In addition, **a third party credit/debit card vendor validates the credit/debit card** and **confirms available funds to cover the transaction** *prior to the final sale*. Given this information, create the decision table.

Solution:

Credit card	+	+	+	+	+	+	+	+								
Debit card (with PIN)									+	+	+	+	+	+	+	+
Items are in-stock	+	-	+	+	-	-	+	-	+	-	+	+	-	-	+	-
Card validated	+	-	-	+	-	+	-	+	+	-	-	+	-	+	-	+
Enough funds	+	-	-	-	+	-	+	+	+	-	-	-	+	-	+	+
Result purchase successful	+	-	-	-	-	-	-	-	+	-	-	-	-	-	-	-

State Transition Diagram

Videogame:

After starting the game, you find yourself in the "Castle of Mysteries", in a room with two corridors - right and left.

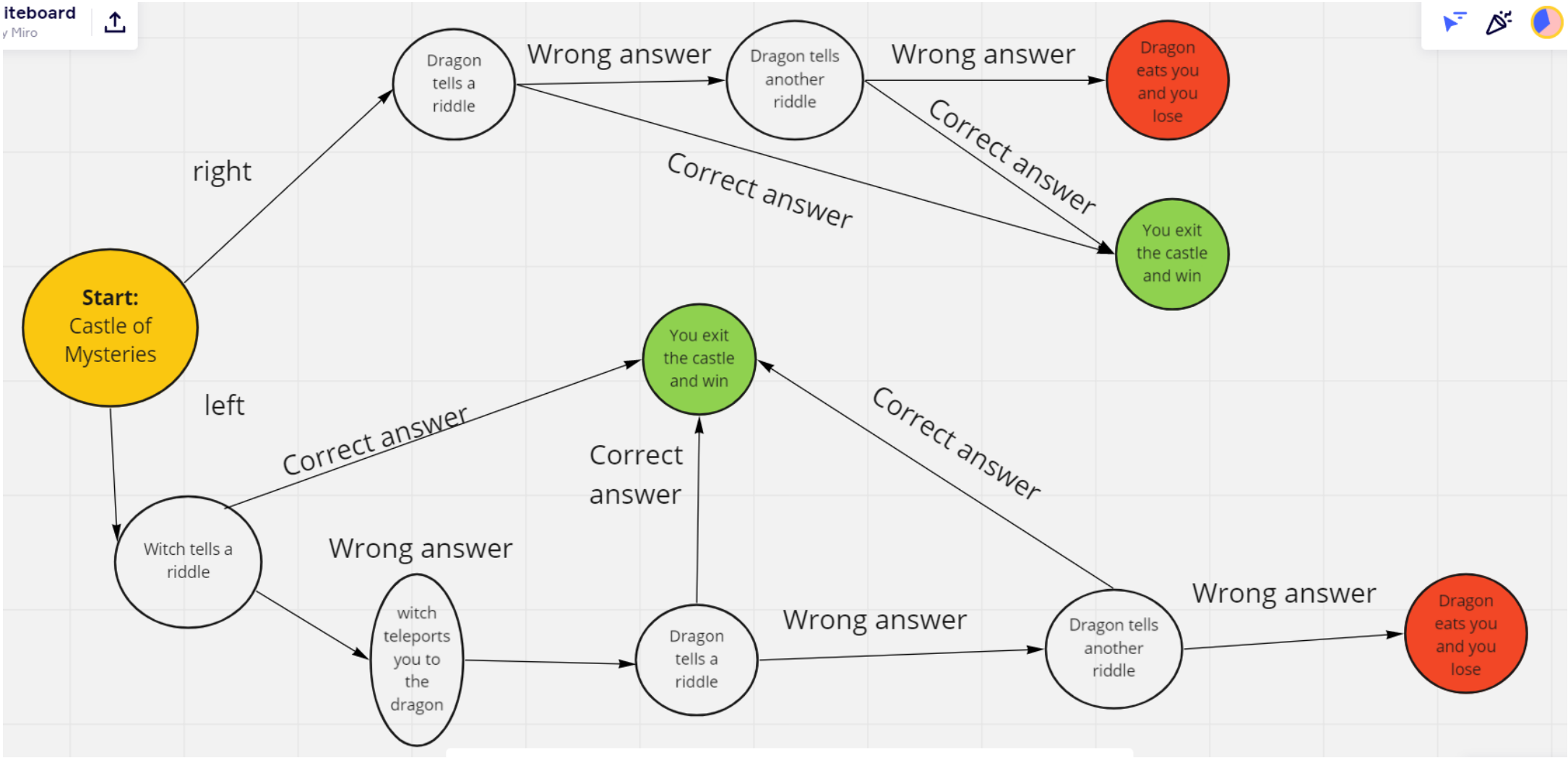
If you go to the right - you get to the dragon. The dragon tells you a riddle. If the answer is correct - you leave the castle and win. If wrong - the dragon tells you another riddle. If you answer incorrectly the second time - the dragon eats you and you lose.

If you go to the left - you will get to the witch. The witch tells you a riddle, if the answer is correct - you leave the castle and win. If the answer is wrong - the witch teleports you to the dragon.

Solution:

7 test cases:

1. Castle - right - Dragon - Correct answer - Victory
2. Castle - right - Dragon - Wrong answer - Dragon - Correct answer - Victory
3. Castle - right - Dragon - Wrong answer - Dragon - Wrong answer - Fail
4. Castle - left - Witch - Wrong answer - Dragon - Correct answer - Victory
5. Castle - left - Witch - Wrong answer - Dragon - Wrong answer - Dragon - Correct answer - Victory
6. Castle - left - Witch - Wrong answer - Dragon - Wrong answer - Dragon - Wrong answer - Fail
7. Castle - left - Witch - Correct answer - Victory


iteboard
y Miro
Start: Castle of Mysteries
right
Dragon tells a riddle
Wrong answer
Dragon tells another riddle
Wrong answer
Dragon eats you and you lose
Correct answer
Correct answer
You exit the castle and win
left
Witch tells a riddle
Correct answer
You exit the castle and win
Correct answer
Wrong answer
witch teleports you to the dragon
Dragon tells a riddle
Wrong answer
Dragon tells another riddle
Correct answer
Wrong answer
Dragon eats you and you lose

Pairwise

Example 1

The developed software supports the following enironments:
OS - Android (2 last versions), iOS (3 last versions)
Screen size (diagonal in inches): 4, 4.7, 5.2, 6
Internet: 4G, 5G

Solution:
(manual)

OC - Android	Screen size (diagonal in inches)	Internet
Android S 12	4	4G
Android R 11	4,7	5G
iOS	5,2	
15.4	6	
14.8..1		
12.5..5		
Test-cases		
Android S 12	4	4G
Android S 12	4,7	5G
Android S 12	5,2	4G
Android S 12	6	5G
Android R 11	4	5G
Android R 11	4,7	4G
Android R 11	5,2	5G
Android R 11	6	4G
iOS		
15.4	4	4G
15.4	4,7	5G
15.4	5,2	4G
15.4	6	5G
14.8..1	4	5G

14.8..1	4,7	4G
14.8..1	5,2	5G
14.8..1	6	4G
12.5..5	4	5G
12.5..5	4,7	5G
12.5..5	5,2	4G
12.5..5	6	5G
Result:	20 test-cases	

(online-instrument - 21 test-cases)

Android S 12	4	4G
Android S 12	4,7	5G
Android S 12	5,2	4G
Android S 12	6	5G
Android R 11	4,7	4G
Android R 11	5,2	5G
Android R 11	6	4G
Android R 11	4	5G
iOS 15.4	5,2	4G
iOS 15.4	6	4G
iOS 15.4	4	4G
iOS 15.4	4,7	5G
iOS 14.8.1	6	5G
iOS 14.8.1	4	5G
iOS 14.8.1	4,7	4G
iOS 14.8.1	5,2	4G
iOS 12.5.5	4	5G
iOS 12.5.5	4	4G
iOS 12.5.5	4,7	4G
iOS 12.5.5	5,2	5G
iOS 12.5.5	6	4G

Different Techniques for positive testing
(Pairwise, Equivalent Class, Boundary Value)

The developed software has a registration form consisting of the following elements:
Login - from 3 to 20 characters, accepts only uppercase and lowercase Latin letters.
Password - from 8 to 16 characters, accepts any Latin letters and numbers. Must be at least one digit.
Age - number, minimum 12, maximum 200.
Gender - Male, Female

Solution:

Data
Login
[3;20] - number of characters
A-Z
a-z
Password
[8;16] - number of characters
A-Z
a-z
0-9
Age
[12;200] - number of characters
0-9
Gender
Male
Female

Test-design Techniques for **positive** Testing:

- Equivalent Class
- Boundary Value
- Pairwise

Equivalent Class and Boundary Value Testing: for Login, Password and Age fields

Login:
Equivalent Classes: [0-3), [3-20], (20-256] (number of characters), and [a-z], [A-Z]
Positive test-cases:

1) azA
2) ZbyYrfGhdFZbyYrfGhdF (20 characters)
3) Byza
4) ZbyYrfGhdFZbyYrfGhd (19 characters)

Password:
Equivalent Classes: [0-8), [8-16], (16-256] (number of characters), and [a-z], [A-Z], [0-9], and it must include **at least one digit**.
Positive test-cases:

1) 0azbycds (8 characters)
2) 9AZBYCDSK (9 characters)
3) 8azbycdsazbycdshs (16 characters)
4) 1AZBYCDSKAZBYCDS (15 characters)
5) A1234567 (8 characters)
6) z123456712345789 (16 characters)

Age:
Equivalent Classes: [0-12), [12-200], (200-300] (age), and [0-9]
Positive test-cases:

1) 12
2) 13
3) 200
4) 199

Pairwise: can be used to check how a user can register, assuming that the Login and Password fields are required, but Age and Gender are not. Therefore, we should check whether the User will be able to register by filling in only some of the fields.

Positive test-cases:

Age	Gender
Not selected	Male
Not selected	Female
Not selected	Not selected
[12-200]	Male
[12-200]	Female
[12-200]	Not selected