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Software Testing

Laboratory work #3

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Chişinau - 2019

Black-Box Technique

Password verification steps:

1. Password length should be between 15 and 30 characters.
2. It must contain:
    - At least one digit
    - At least one lower case character
    - At least one upper case character
    - At least one symbol

Cases that will be checked in decision table:

1. When all conditions are true.
2. One of two conditions are false.

Decision table:

Relation / *Condition*	*R1*	*R2*	*R3*	*R4*	*R5*	*R6*
$14 < Length < 31$	True	False	True	True	True	True
$Contains\ no\ number$	True	True	False	True	True	True
$Contains\ no\ lower\ case$	True	True	True	False	True	True
$Contains\ no\ bigger\ case$	True	True	True	True	False	True
$Contains\ numbers\ lower\ and\ bigger\ case\ letters$	True	True	True	True	True	False
Success	***True***	False	False	False	False	False

Steps for user registration:

1. Load landing page
2. Press on register (registration form opens)
3. Input password
4. Press on register (server checks the information)

In case of success the user will be redirected to the home page. Else the registration form will reload and print the error message.

Decision table:

Test	Password Input	Description	Result
1	SimpleP@ssword123	$14 < Length < 31$ $Contains\ 3\ digits$ $Contains\ 11\ lower\ \&\ 2\ upper\ case\ letters$ $Contains\ 1\ symbol$	OK
2	L3ngth0eroAnd_23	$14 < Length < 31$ $Contains\ 4\ digits$ $Contains\ 9\ lower\ \&\ 2\ upper\ case\ letters$ $Contains\ 1\ symbol$	OK
3	LoremIpsumD0lorS1T@m3t! #ConsectetAdiPIsC1N333Lit	$Length > 30$ $Contains\ 7\ digits$ $Contains\ 28\ lower\ \&\ 11\ upper\ case\ letters$ $Contains\ 3\ symbols$	Fail
4.	Echo@Test123	$Length < 15$ $Contains\ 3\ digits$ $Contains\ 6\ lower\ \&\ 2\ upper\ case\ letters$ $Contains\ 1\ symbol$	Fail
5.	password_IS_my_birthday	$14 < Length < 31$ $Contains\ no\ digits$ $Contains\ 18\ lower\ \&\ 2\ upper\ case\ letters$ $Contains\ 3\ symbols$	Fail

Steps for replying to a post:

1. Each reply starts with '@' symbol
2. Given symbol can appear only once
3. Reply should have at least 2 letters (except '@' symbol)
4. Maximum length of a reply should be less than 128 characters

Possible outcomes:

1. Check input data where:
    a. Special symbol is at the beginning
    b. Special symbol placed in wrong location
    c. Missing special symbol
    d. Special symbol appears more than once
2. Reply message length:
    a. Bigger than 128
    b. Between 2 and 128
    c. Less than 2

Relation / *Condition*	*R1*	*R2*	*R3*	*R4*
Only one special symbol	True	False	True	True
Starts with special symbol	True	True	False	True
2 < Length < 128	True	True	True	False
Success	**True**	False	False	False

Decision table:

Test	Reply Message	Description	Result
1	@Should work D:	Valid	OK
2	@yes	Valid	OK
3	@	Length < 2	Fail
4	Impossible@one	Invalid symbol location	Fail
5	@Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat.	Length > 128	Fail
6	@@@you are all wrong	Multiple special symbols	Fail
7	I think you forgot something	No special symbol	Fail

Conclusion:

In this laboratory work I gained knowledge in black-box testing technique. It is useful when there is a preparation stage for a big, complex project. It allows us to see different results for different outcomes. We define the requirements for each step (registration, replying and etc…). While working with this technique we don't think about the code implementation, it should not be bothering us. There is a task and we want to get a determined result for it.

Using state transition diagram we analyze every possible outcome in the application and declare minimum amount of objects for the application. This will make our objects more modular and effective. After developing our application we should write the unit tests (DDD) to check that everything works as expected. This will display the bugs and unseen outcomes.