

1. Equivalence Testing with Discrete Value (Black Box)

Test Case and Results

Invalid Case for Register Page

Input Parameters: Name , Email , Password , Re-enter Password

No.	Name	Email	Password	Re-Enter Password	Expected Output	Actual Output	Pass / Fail ?
1.	OJJ	random.sg	123Random!	123Random!	"Please include an '@' in the email address.'input' is missing an '@"	"Please include an '@' in the email address. 'random.sg' us missing an '@"	Pass
2.	OJJ	random@	123Random!	123Random!	"Please enter a part following '@', 'input@' is incomplete."	"Please enter a park following '@', 'random@' is incomplete."	Pass
3.	OJJ	random@gmail.com	123Random (no special character)	123Random	Password must be between 8 and 20 characters, include at least 1	Password must be between 8 and 20 characters, include at least 1	Pass

					uppercase letter, 1 lowercase letter, 1 number, and 1 special character.	uppercase letter, 1 lowercase letter, 1 number, and 1 special character.	
4	OJJ	random@gmail.com	Randommm! (no number)	Randommm!	Password must be between 8 and 20 characters, include at least 1 uppercase letter, 1 lowercase letter, 1 number, and 1 special character.	Password must be between 8 and 20 characters, include at least 1 uppercase letter, 1 lowercase letter, 1 number, and 1 special character.	Pass
5.	OJJ	random@gmail.com	Rand12! (below 8 char)	Random	Password must be between 8 and 20 characters, include at least 1 uppercase letter, 1 lowercase letter, 1 number, and 1 special	Password must be between 8 and 20 characters, include at least 1 uppercase letter, 1 lowercase letter, 1 number, and 1 special	Pass

					character.	character.	
6.	OJJ	random@gmail.com	Randommmmmmmmm12! (above 20 char)	Randommmmmmmmmmm	Password must be between 8 and 20 characters, include at least 1 uppercase letter, 1 lowercase letter, 1 number, and 1 special character.	Password must be between 8 and 20 characters, include at least 1 uppercase letter, 1 lowercase letter, 1 number, and 1 special character.	Pass
7.	OJJ	random@gmail.com	random123! (no uppercaser)	random123!	Password must be between 8 and 20 characters, include at least 1 uppercase letter, 1 lowercase letter, 1 number, and 1 special character.	Password must be between 8 and 20 characters, include at least 1 uppercase letter, 1 lowercase letter, 1 number, and 1 special character.	Pass
8.	OJJ	random@gmail.com	RANDOM123! (no lowercaser)	RANDOM123!	Password must be between 8 and 20	Password must be between 8 and 20	Pass

					characters, include at least 1 uppercase letter, 1 lowercase letter, 1 number, and 1 special character.	characters, include at least 1 uppercase letter, 1 lowercase letter, 1 number, and 1 special character.	
9.	OJJ	random@gmail.com	123Random!	123Random! (password does not match)	Passwords do not match. Please make sure both password fields are identical.	Passwords do not match. Please make sure both password fields are identical.	Pass
10.	Null	random@gmail.com	123Random!	123Random!	"Please fill out this field." at "Name" input bar.	"Please fill out this field." at "Name" input bar.	Pass
11.	OJJ	Null	123Random!	123Random!	"Please fill out this field." at "Email" input bar.	"Please fill out this field." at "Email" input bar.	Pass
12.	OJJ	random@gmail.com	Null	123Random!	"Please fill out this field." at "Password" input bar.	"Please fill out this field." at "Password" input bar.	Pass
13.	OJJ	random@gmail.com	123Random!	Null	"Please fill out this field." at	"Please fill out this field." at	

					"Re-Enter Password" input bar.	"Re-Enter Password" input bar.	
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Valid Case for Register Page

Input Parameters: Name , Email , Password , Re-enter Password

No.	Name	Email	Password	Re-Enter Password	Expected Output	Actual Output	Pass / Fail ?
1.	OJJ	random@gmail.com	123Random!	123Random!	Redirected to Login Page	Redirected to Login Page	Pass
2.	THR	random@yahoo.com.sg	456rAndom@	456rAndom@	Redirected to Login Page	Redirected to Login Page	Pass
3.	YF	NotRandom@hotmail.com	RANDOm\$789	RANDOm\$789	Redirected to Login Page	Redirected to Login Page	Pass

Invalid Case for Login Page

Input Parameters: Email , Password

No.	Email	Password	Expected Output	Actual Output	Pass / Fail ?
1.	random.sg	123Random!	"Please include an '@' in the email address.'input' us missing an '@"	"Please include an '@' in the email address. random.sg is missing an '@"	Pass
2.	random@	123Random!	"Please enter a part following '@', 'input@' is incomplete."	"Please enter a part following '@', 'random@' is incomplete."	Pass
3.	Null	123Random!	"Please fill out this field." At "Email" input bar	"Please fill out this field." At "Email" input bar	Pass
4.	random@gmail.com	123Random (Wrong Password)	"Password Incorrect"	"Password Incorrect"	Pass
5.	random@gmail.com	Null	"Please fill out this field." at "Password" input bar	"Please fill out this field." at "Password" input bar	Pass
6.	random@gmail (email not in database)	123Random!	"No user with that email"	"No user with that email"	Pass

Valid Case for Login Page

Input Parameters: Email , Password

No.	Email	Password	Expected Output	Actual Output	Pass / Fail ?
1.	random@gmail.com	123Random!	Redirected to UserMapView	Redirected to UserMapView	Pass
2.	random@yahoo.com.sg	456rAndom@	Redirected to UserMapView	Redirected to UserMapView	Pass
3.	NotRandom@hotmail.com	RANDOm\$789	Redirected to UserMapView	Redirected to UserMapView	Pass

Valid Case for Guest

Input Parameters: User Click

No.	Dk what to put here??	Expected Output	Actual Output	Pass / Fail ?
1.	User Click "Continue as Guest"	Redirected to UserMapView	Redirected to UserMapView	Pass

Invalid Case for ForgetPassword

Input Parameters: Email

No.	Email	Expected Output	Actual Output	Pass / Fail ?
1.	random.sg	"Please include an '@' in the email address.'input' us missing an '@'"	"Please include an '@' in the email address. random.sg is missing an '@'"	Pass
2.	random@	"Please enter a part following '@', 'input@' is incomplete."	"Please enter a part following '@', 'random@' is incomplete."	Pass
4.	null	"Please fill out this field." At "Email" input bar	"Please fill out this field." At "Email" input bar	Pass

Valid Case for ForgetPassword

Input Parameters: Email

No.	Email	Expected Output	Actual Output	Pass / Fail ?
1.	random@gmail.com	Redirected to ResetPasswordPage	Redirected to ResetPasswordPage	Pass

Invalid Case for ResetPassword

Input Parameters: OTP, New Password , Confirm Password

No	OTP	New Password	Confirm Password	Expected Output	Actual Output	Pass / Fail ?
1.	okqo1N (Wrong OTP)	123Random@	123Random@	"OTP incorrect"	"OTP incorrect"	Pass
2.	okqo1N (OTP Expired)	123Random@	123Random@	Redirected back to ForgetPasswordPage "Your OTP has expired. Please request a new one."	Redirected back to ForgetPasswordPage "Your OTP has expired. Please request a new one."	Pass
3.	Null	123Random@	123Random@	"Please fill out this field." At "OTP" input bar	"Please fill out this field." At "OTP" input bar	Pass
4.	SSJteT	1234Random (no special character)	1234Random	"Password must be between 8 and 20 characters, include at least 1 uppercase letter, 1 lowercase letter, 1 number, and 1 special character."	"Password must be between 8 and 20 characters, include at least 1 uppercase letter, 1 lowercase letter, 1 number, and 1 special character."	Pass

5.	SSJteT	Randommm@ (no number)	Randommm@	Password must be between 8 and 20 characters, include at least 1 uppercase letter, 1 lowercase letter, 1 number, and 1 special character.	Password must be between 8 and 20 characters, include at least 1 uppercase letter, 1 lowercase letter, 1 number, and 1 special character.	Pass
6.	SSJteT	Rand12! (below 8 char)	Rand12!	Password must be between 8 and 20 characters, include at least 1 uppercase letter, 1 lowercase letter, 1 number, and 1 special character.	Password must be between 8 and 20 characters, include at least 1 uppercase letter, 1 lowercase letter, 1 number, and 1 special character.	Pass
7.	SSJteT	Randommmmmmmmmmmmmmm12@ (above 20 char)	Randommmmmmmmmmmmmmm12@	Password must be between 8 and 20 characters, include at least 1 uppercase letter, 1 lowercase letter, 1 number, and 1 special character.	Password must be between 8 and 20 characters, include at least 1 uppercase letter, 1 lowercase letter, 1 number, and 1 special character.	Pass
8.	SSJteT	random123@ (no uppercaser)	random123@	Password must be between 8 and 20 characters, include at least 1 uppercase letter, 1 lowercase letter, 1 number, and 1 special character.	Password must be between 8 and 20 characters, include at least 1 uppercase letter, 1 lowercase letter, 1 number, and 1 special character.	Pass
9.	SSJteT	123Random@	123Random!	"Passwords do not match. Please make sure both password fields are identical."	"Passwords do not match. Please make sure both password fields are identical."	Pass

10	SSJteT	Null	123Random@	"Please fill out this field." at "New Password" input bar	"Please fill out this field." at "New Password" input bar	Pass
	SSJteT	123Random@	Null	"Please fill out this field." at "Confirm Password" input bar	"Please fill out this field." at "Confirm Password" input bar	Pass

Valid Case for ResetPassword

Input Parameters: OTP, New Password , Confirm Password

No	OTP	New Password	Confirm Password	Expected Output	Actual Output	Pass / Fail ?
1.	SSJteT	123Random@	123Random@	Redirected to SuccessResetPasswor dPage	Redirected to SuccessResetPassword Page	Pass

Invalid Case for SearchAndSelectDestination

Input Parameters: User input address/postal code

No.	Search Bar	User Select	Expected Output	Actual Output	Pass / Fail ?
2.	Null	Nothing for user to select	Null	Null	Pass
3.	991854 (postal code don't exist)	User presses the search button	"No results found." drop-down error box.	"No results found." drop-down error box.	Pass

Valid Case for SearchAndSelectDestination

Input Parameters: User input address/postal code

No.	Search Bar	User Select	Expected Output	Actual Output	Pass / Fail ?
1.	"woodlands mrt"	"Woodlands Mrt Station (NS9)"	Car Park Markers of nearby car parks within 500 meters of destination pops up. Parking Lots Found List shows a list of nearby car park details User History is shown if there if any	Car Park Markers of nearby car parks within 500 meters of destination pops up. Parking Lots Found List shows a list of nearby car park details User History is shown if there is any	Pass
2.	"Jurong point"	"Jurong Point"	Car Park Markers of nearby car parks within 500 meters of	Car Park Markers of nearby car parks within 500 meters	Pass

			<p>destination pops up.</p> <p>Parking Lots Found List shows a list of nearby car park details</p> <p>User History is shown if there is any</p>	<p>of destination pops up.</p> <p>Parking Lots Found List shows a list of nearby car park details</p> <p>User History is shown if there is any</p>	
3.	"520716" (postal code for Block 716 Tampines Street 71)	User press search icon	<p>Car Park Markers of nearby car parks within 500 meters of destination pops up.</p> <p>Parking Lots Found List shows a list of nearby car park details</p> <p>User History is shown if there is any</p>	<p>Car Park Markers of nearby car parks within 500 meters of destination pops up.</p> <p>Parking Lots Found List shows a list of nearby car park details</p> <p>User History is shown if there is any</p>	Pass
4.	"560106" (Blk 106 Ang Mo Kio Avenue 4)	User press search icon	<p>Car Park Markers of nearby car parks within 500 meters of destination pops up.</p> <p>Parking Lots Found List shows a list of nearby car park details</p> <p>User History is shown if there is any</p>	<p>Car Park Markers of nearby car parks within 500 meters of destination pops up.</p> <p>Parking Lots Found List shows a list of nearby car park details</p> <p>User History is shown if there is any</p>	Pass

Invalid Case for SelectCarpark

Input Parameters: User click to select

No.	User Select Car Park from Parking Lots Found List	Expected Output	Actual Output	Pass / Fail ?
1.	User could not find car park of choice	<p>Car Park Markers of nearby car parks within 500 meters of destination pops up.</p> <p>Parking Lots Found List shows a list of nearby car park details</p> <p>User History is shown if there if any</p>	<p>Car Park Markers of nearby car parks within 500 meters of destination pops up.</p> <p>Parking Lots Found List shows a list of nearby car park details</p> <p>User History is shown if there if any</p>	Pass

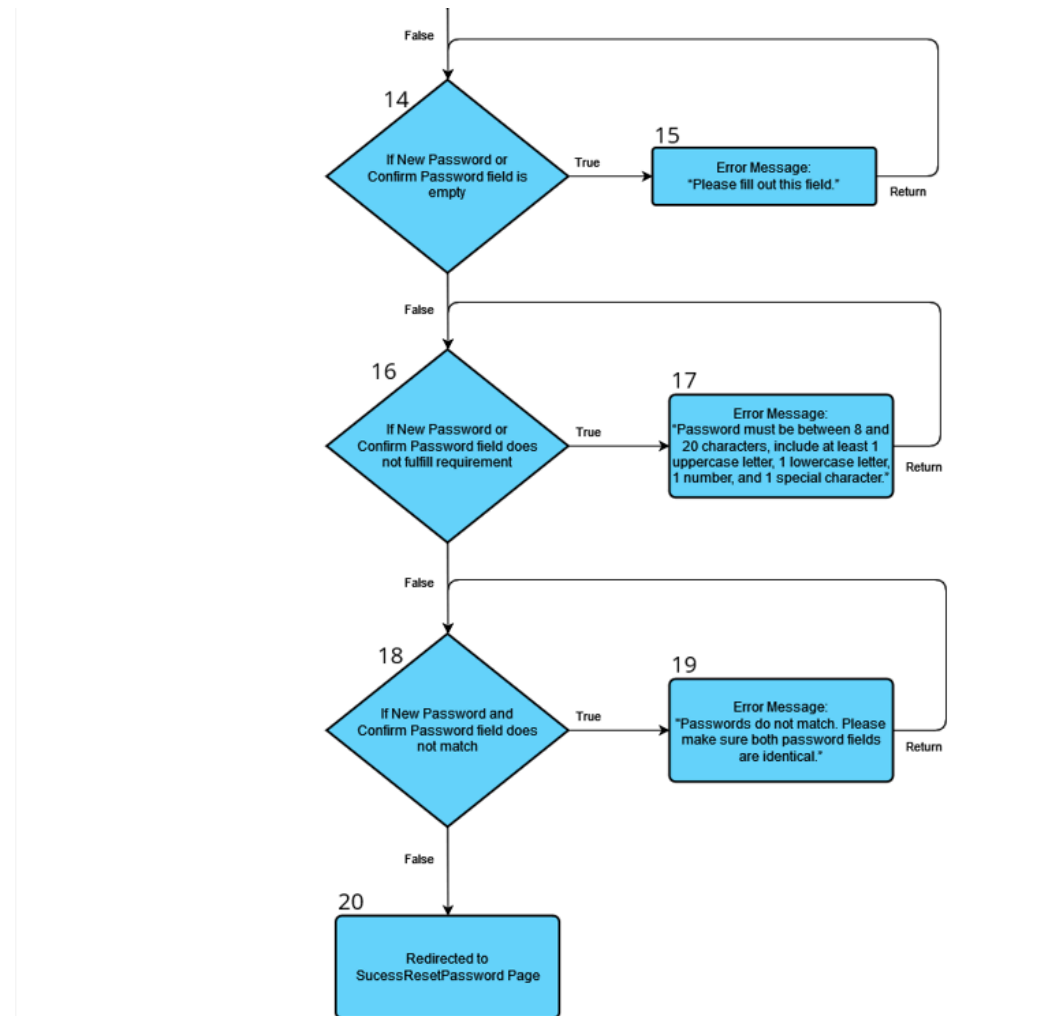
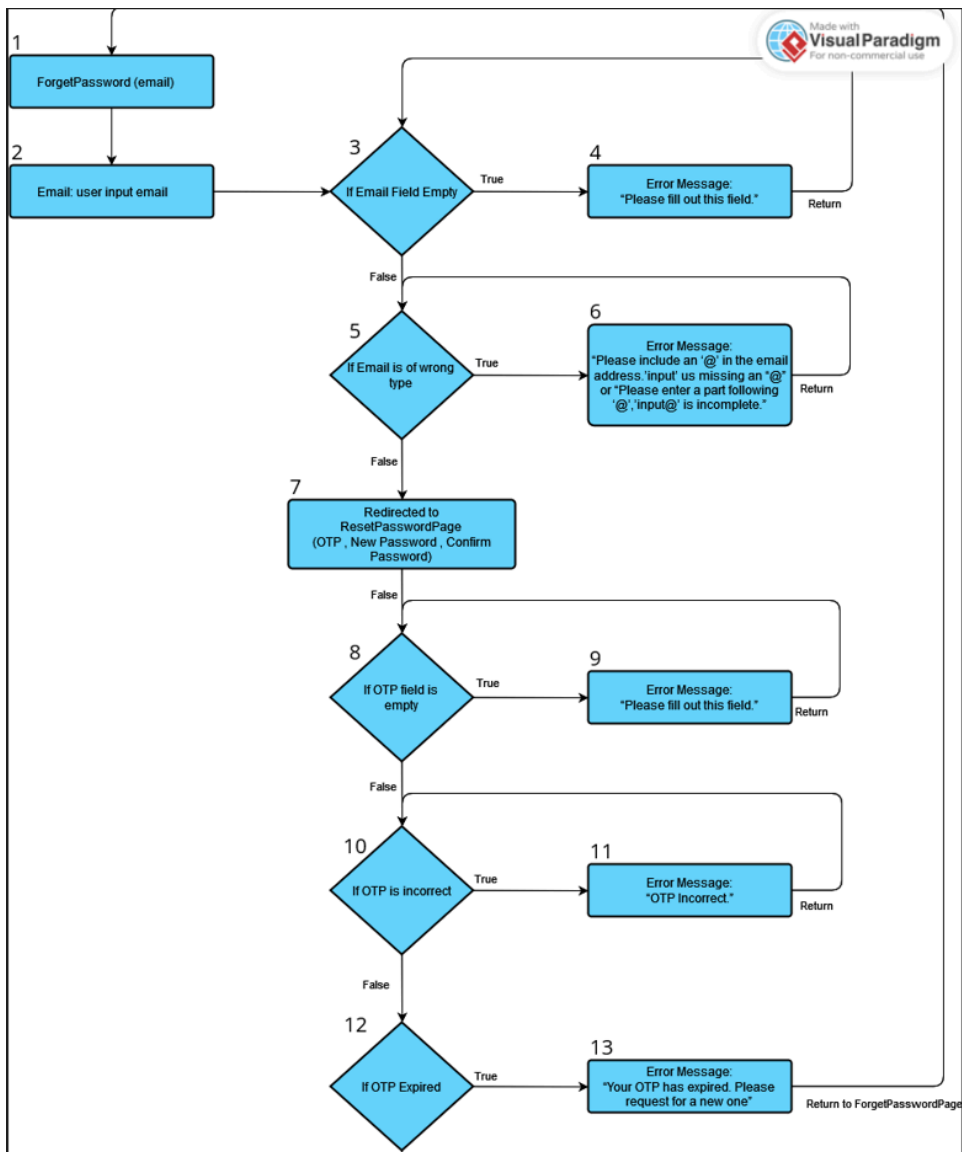
Valid Case for SelectCarpark

Input Parameters: User click to select

No.	User Select Car Park from Parking Lots Found List	Expected Output	Actual Output	Pass / Fail ?
1.	"Carpark WCC: 900 South Woodlands Dr"	Show route from user destination to car park Selected car park shown in recent history	Show route from user destination to car park Selected car park shown in recent history	Pass
2.	"Carpark BL24: BLK 237 Boon Lay Drive"	Show route from user destination to car park Selected car park shown in recent history	Show route from user destination to car park Selected car park shown in recent history	Pass
3.	"Carpark NT1: BLK 601 Tampines Avenue 9"	Show route from user destination to car park Selected car park shown in recent history	Show route from user destination to car park Selected car park shown in recent history	Pass

2. White Box Testing

Control flow for ForgetPassword & ResetPassword Test Case



Cyclomatic Complexity = |Decision points| + 1 = 9

Basis Paths for ForgetPassword & ResetPassword

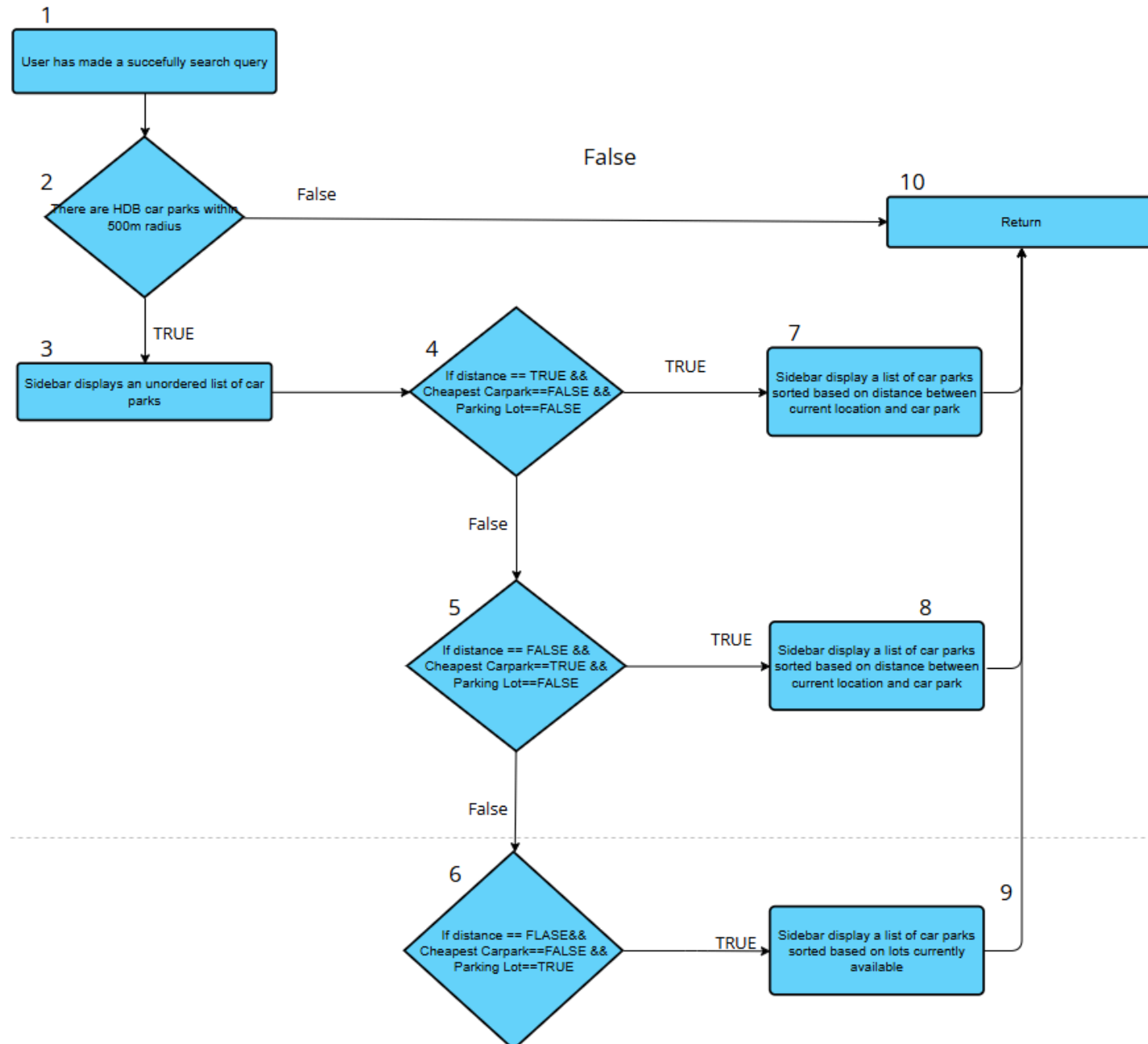
1. Baseline path: 1, 2, 3, 5, 7, 8, 10, 12, 14, 16, 18, 20
2. Basis path 1: 1, 2, 4, 5, 7, 8, 10, 12, 14, 16, 18, 20
3. Basis path 2: 1, 2, 5, 6, 7, 8, 10, 12, 14, 16, 18, 20
4. Basis path 3: 1, 2, 5, 7, 8, 9, 10, 12, 14, 16, 18, 20
5. Basis path 4: 1, 2, 5, 7, 8, 10, 11, 12, 14, 16, 18, 20
6. Basis path 5: 1, 2, 5, 7, 8, 10, 12, 13, 14, 16, 18, 20
7. Basis path 6: 1, 2, 5, 7, 8, 10, 12, 14, 15, 16, 18, 20
8. Basis path 7: 1, 2, 5, 7, 8, 10, 12, 14, 16, 17, 18, 20
9. Basis path 8: 1, 2, 5, 7, 8, 10, 12, 14, 16, 18, 19, 20

No.	Email	OTP	New Password	Confirm Password	Expected Output	Actual Output	Pass / Fail ?
1.	random@gmail.com	SSJteT	123Random@	123Random@	Redirected to SuccessResetPasswordPage	Redirected to SuccessResetPasswordPage	Pass
2..	null	null	null	null	"Please fill out this field." At "Email" input bar	"Please fill out this field." At "Email" input bar	Pass
3.	random@	null	null	null	"Please include an '@' in the email address.'input' us missing an '@" or "Please enter a part	"Please include an '@' in the email address.'input' us missing an '@" or "Please enter a part	Pass

					following '@', 'input@' is incomplete."	following '@', 'input@' is incomplete."	
4.	random@g mail.com	Null	123Random@	123Random@	"Please fill out this field." At "OTP" input bar	"Please fill out this field." At "OTP" input bar	Pass
5.	random@g mail.com	test12	123Random@	123Random@	"OTP incorrect"	"OTP incorrect"	Pass
6.	random@g mail.com	SSJteT (OTP expired)	123Random@	123Random@	Redirected back to ForgetPasswordPage "Your OTP has expired. Please request a new one."	Redirected back to ForgetPasswordPa ge "Your OTP has expired. Please request a new one."	Pass
7.	random@g mail.com	SSJteT	Null	123Random@	"Please fill out this field." At "New Password" input bar	"Please fill out this field." At "New Password" input bar	Pass
8.	random@g mail.com	SSJteT	123Random (no symbol)	123Random (no symbol)	Password must be between 8 and 20 characters, include at least 1 uppercase letter, 1 lowercase letter, 1 number, and 1 special character.	Password must be between 8 and 20 characters, include at least 1 uppercase letter, 1 lowercase letter, 1 number, and 1 special character.	Pass
9.	random@g mail.com	SSJteT	123Random@	random123@ (Password don't	"Passwords do not match. Please make	"Passwords do not match. Please	Pass

				match)	sure both password fields are identical.”	make sure both password fields are identical.”	
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Control Flow for Filter Test Case



Filter Test Case Paths

Path #1: 1, 2, 10

Path #2: 1, 2, 3, 4, 7, 10 (when user filters by Distance)

Path #3: 1, 2, 3, 5, 8, 10 (when user filters by Cheapest Car Park)

Path #4: 1, 2, 3, 6, 9, 10 (when user filters by lots currently available)

Test Case

1. No car park nearby
2. User filters by Distance
3. User filters by Cheapest Car Park
4. User filters by lots currently available