Blackbox testing: Equivalence class and boundary value testing

addTrip() - equivalence class testing

Test input			Expected output	Actual output
Trip Name	Origin location	Destination location		
USS to GbtB	Universal Studios Singapore	Gardens by the Bay	Trip successfully added	Trip successfully added
To infinity and beyonddddddddddddd	Singapore Zoo	Merlion Park	“Trip Name too long” error message	“Trip Name too long” error message
Hogwarts to MBS	Hogwarts School of Magic	Marina Bay Sands	“Origin location does not exist” error message	“Origin location does not exist” error message
1	Suntec City	Asdf123	“Destination location does not exist” error message	“Destination location does not exist” error message

executeTrip() - equivalence class testing

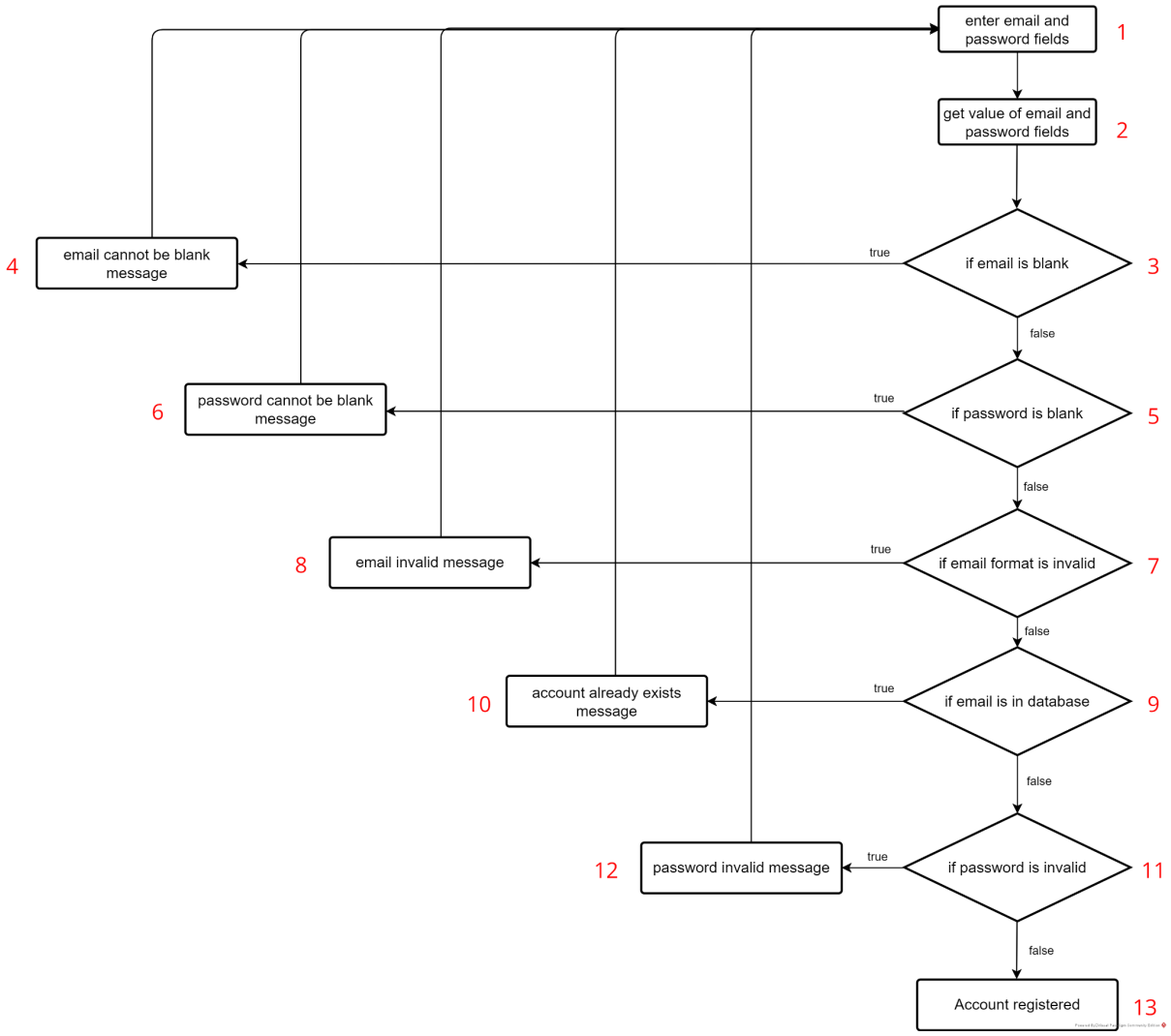
Test input		Expected output	Actual output
Location permissions	Mobile GPS enabled		
Allowed	Enabled	Successful trip execution	Successful trip execution
Disallowed	Enabled	“Allow access to device location?” message	“Allow access to device location?” message
Allowed	Not enabled	“To continue, turn on device location” message	“To continue, turn on device location” message

editPrice() - equivalence class testing + boundary value testing

Test case (0 <= Valid price <= 100)	Test input	Expected output	Actual output
Lower boundary	0	Successful editing of price	Successful editing of price
Upper boundary	100	Successful editing of price	Successful editing of price
Just below lower boundary	-0.01	“Price cannot be negative” message	“Price cannot be negative” message
Just above upper boundary	100.01	“Price must be $100 or less” message	“Price must be $100 or less” message

Whitebox testing - Basis path testing

register()

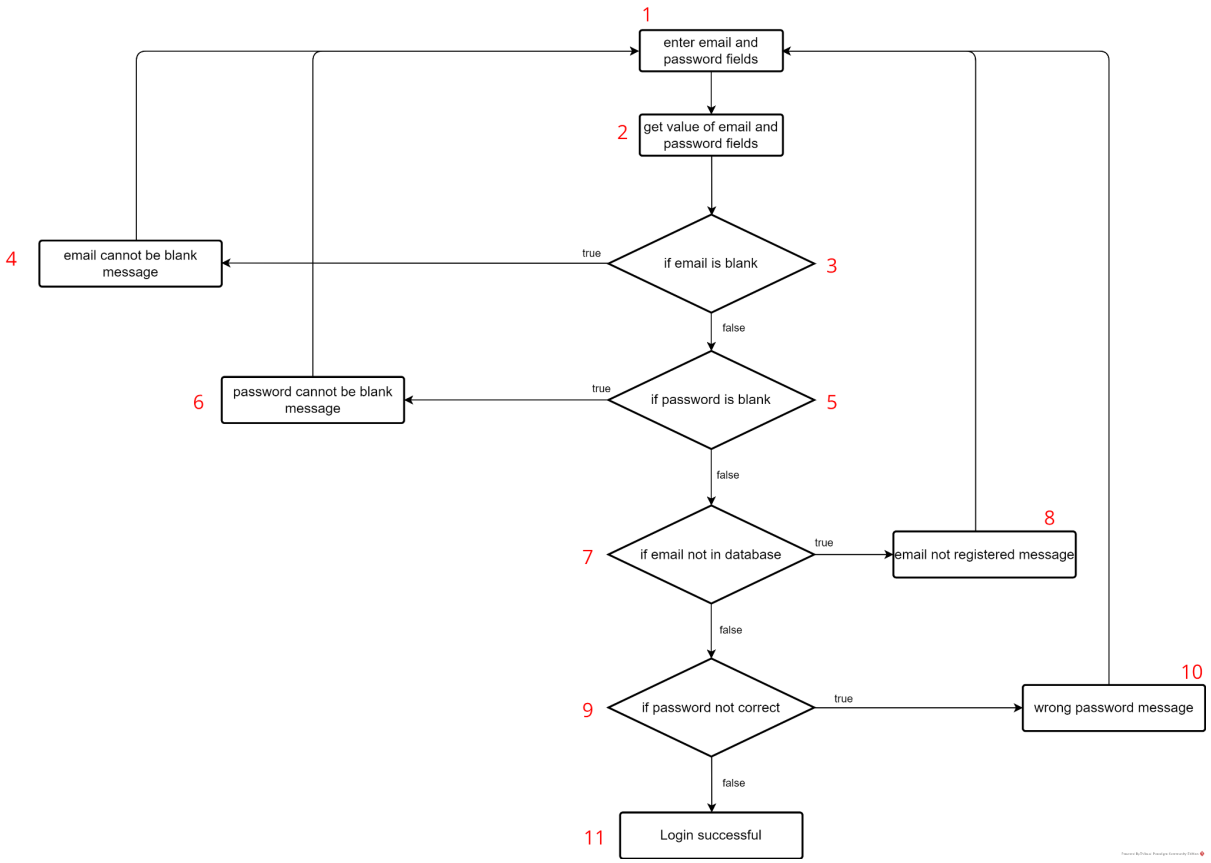


Cyclomatic complexity = 5 binary decision points + 1 = 6

We need 6 basis paths.

Path no.	Path	Email	Password	Email format invalid	Email already registered	Password invalid
Path 1 (baseline)	1,2,3,5,7,9,11,13	jack3141@gmail.com	Jack123!	No	No	No
Path 2	1,2,3,4,1,2,3,5,7,9,11,13	(Blank)	Jack123!	–	–	–
Path 3	1,2,3,5,6,1,2,3,5,7,9,11,13	jack3141@gmail.com	(Blank)	–	–	–
Path 4	1,2,3,5,7,8,1,2,3,5,7,9,11,13	jack3141	Jack123!	Yes	–	–
Path 5	1,2,3,5,7,9,10,1,2,3,5,7,9,11,13	burneremail@gmail.com	Burneremail123!	No	Yes	–
Path 6	1,2,3,5,7,9,11,12,1,2,3,5,7,9,11,13	jack3141@gmail.com	jack12	No	No	Yes

login()



Cyclomatic complexity = 4 binary decision points + 1 = 5

We need 5 basis paths.

Path no.	Path	Email	Password	Email already registered	Entered password matches registered password
Path 1 (baseline)	1,2,3,5,7,9,11	jack3141@gmail.com	Jack123!	Yes	Yes
Path 2	1,2,3,4,1,2,3,5,7,9,11	(Blank)	Jack123!	–	–
Path 3	1,2,3,5,6,1,2,3,5,7,9,11	jack3141@gmail.com	(Blank)	Yes	–
Path 4	1,2,3,5,7,8,1,2,3,5,7,9,11	jill1618@gmail.com	Jillery123!	No	–
Path 5	1,2,3,5,7,9,10,1,2,3,5,7,9,11	jack3141@gmail.com	Random123!	Yes	No