

# Test Cases

## 1.1. Create Account

Test Case No.	Inputs	Expected Output	Test Output	Result
1	Email : <Empty> Password : <Empty>	Fail to sign up due to empty field	Fail to sign up	Passed
2	Email : <Empty> Password : 123456	Fail to sign up due to empty field	Fail to sign up	Passed
3	Email : aaron@gmail.com Password : <Empty>	Fail to sign up due to empty field	Fail to sign up	Passed
4	Email : aaro@gmail.com Password : helloworld	Fail to sign up due to existing account	Fail to sign up	Passed
5	Email : aaron Password : helloworld	Fail to sign up due to invalid email	Fail to sign up	Passed
6	Email : aaron@gmail.com Password : helloworld	Successfully signed up	Successfully signed up	Passed
7	Email : jason@gmail.com Password : helloworld	Successfully signed up	Successfully signed up	Passed

## 1.2. Log In Account

Test Case No.	Inputs	Expected Output	Test Output	Result
1	Email : <Empty> Password : <Empty>	Fail to log in due to empty field	Fail to log in	Passed
2	Email : <Empty> Password : 123456	Fail to log in due to empty field	Fail to log in	Passed
3	Email : aaron@gmail.com Password : <Empty>	Fail to log in due to empty field	Fail to log in	Passed
4	Email : test Password : 123456	Fail to log in due to invalid email	Fail to log in	Passed

Test Case No.	Inputs	Expected Output	Test Output	Result
5	Email : aaron@gmail.com Password : 123456	Fail to log in due to wrong password	Fail to log in	Passed
6	Email : charlie@gmail.com Password : helloworld	Fail to log in due to wrong email	Fail to log in	Passed
7	Email : test@gmail.com Password : 123456	Successfully logged in	Successfully logged in	Passed

### 1.3. Log Out Account

Test Case No.	Inputs	Expected Output	Test Output	Result
1	After logging in, click on “Log out” button	Successful log out	Successful log out	Passed

### 1.4. Remain Logged In After Refresh

Test Case No.	Inputs	Expected Output	Test Output	Result
1	After logging in, refresh the page by clicking the refresh button.	User is still logged in	User is still logged in	Passed

### 1.5. Home Page Functionality

Test Case No.	Inputs	Expected Output	Test Output	Result
1	Home Page	Display statistics/ recommendation of routes	Display statistics/ recommendation of routes	Passed
2	Click on the recommended routes	Brings user to browse and prompt display route information	Brings user to browse and prompt display route information	Passed
3	Home Page Welcome Back, header should be the <email> without @gmail.com	Welcome Back, AARON	Welcome Back, AARON	Passed

## 1.6. Browse Page Functionality

Test Case No.	Inputs	Expected Output	Test Output	Result
1	Browse Page	Input field of location with recommended location and filters	Input field of location with recommended location and filters	Passed
2	Click on the search bar, and enter an address or select recommendation e.g. Nanyang Drive, NTU North Spine Plaza, Singapore	Display the list containing the search query	Display the list containing the search query	Passed
3	Combinations of Ratings, Distance, Terrain and Elevation	Output list should be filtered accordingly	Output list should be filtered accordingly	Passed
4	Scroll down the list	The list shows the best match first then subsequently less matching routes	The list shows the best match first then subsequently less matching routes	Passed
5	Select one of the route in the list	Route information displayed with map and Leaderboard	Route information displayed with map and Leaderboard	Passed
6	Select add to My Runs on desired route	Route added to My Runs page, and user directed to My Runs page	Route added to My Runs page, and user directed to My Runs page	Passed
7	Enter a location: <Empty> Rating: 0 Distance: 5 Elevation: 5 Terrain: Urban	Alert: Request to input location	Alert: Request to input location	Passed
8	Enter a location : 2 Chome-29-1 Dogenzaka, Shibuya City, Tokyo 150-0043, Japan Rating :0 Distance :5 Elevation :5 Terrain :Urban	Prompt user for valid location (in Singapore)	Prompt user for valid location (in Singapore)	Passed

## 1.7. Custom Page Functionality

Test Case No.	Inputs	Expected Output	Test Output	Result
1	Custom Page	Request 2 location fields to make a route	Request 2 location fields to make a route	Passed
2	Starting Address: <Empty> Destination Address: <Empty>	Request to input location (location cannot be empty)	Request to input location (location cannot be empty)	Passed
3	Starting Address: Nanyang Drive, NTU North Spine Plaza, Singapore  Destination Address: <Empty>	Request to input location (location cannot be empty)	Request to input location (location cannot be empty)	Passed
4	Starting Address: <Empty> Destination Address: Nanyang Drive, NTU North Spine Plaza, Singapore	Request to input location (location cannot be empty)	Request to input location (location cannot be empty)	Passed
5	Starting Address: Nanyang Drive, NTU North Spine Plaza, Singapore  Destination Address: Nanyang Avenue, Hall 11 - Block 54, Singapore	Display route on map with further prompts to add point, name route, set terrain and add route to My runs	Display route on map with further prompts to add point, name route, set terrain and add route to My runs	Passed
6	User change input Starting/Destination Address after pressing search	Display route on map will be updated with new location	Display route on map will be updated with new location	Passed
7	Input Stop-by Point address for user to add 3rd point	Display route on map will be updated with new location now with 3 markers	Display route on map will be updated with new location now with 3 markers	Passed
8	User drag can drag all markers to customs location	Route display will be updated with new drawn route on marker	Route display will be updated with new drawn route on marker	Passed
9	Starting Address:	Prompt user to enter Route	Prompt user to enter Route	Passed

	Nanyang Drive, NTU North Spine Plaza, Singapore Destination Address: Nanyang Avenue, Hall 11 - Block 54, Singapore Stop-by Point Address :<Empty> Route Name :<Empty> Terrain :Urban	name (cannot be empty)	name (cannot be empty)	
10	Starting Address: Nanyang Drive, NTU North Spine Plaza, Singapore Destination Address: Nanyang Avenue, Hall 11 - Block 54, Singapore Stop-by Point Address : Nanyang Drive, Yunnan Garden, Singapore Route Name :<Empty> Terrain :Urban	Prompt user to enter Route name (cannot be empty)	Prompt user to enter Route name (cannot be empty)	Passed
11	Starting Address: Nanyang Drive, NTU North Spine Plaza, Singapore Destination Address: Nanyang Avenue, Hall 11 - Block 54, Singapore Stop-by Point Address : Nanyang Drive, Yunnan Garden, Singapore Route Name :NTU Route Terrain :Urban	NTU Route will be added to My Runs page, Map will display 3 points	NTU Route will be added to My Runs page, Map will display 3 points	Passed
12	Starting Address: Nanyang Drive, NTU North Spine Plaza, Singapore Destination Address: Nanyang Avenue, Hall 11 - Block 54, Singapore Stop-by Point Address :<Empty> Route Name :NTU Route Terrain :Urban	NTU Route will be added to My Runs page, Map will display 2 points	NTU Route will be added to My Runs page, Map will display 2 points	Passed
13	User tries to name another route with existing name	Error message telling user to input another route name	Error message telling user to input another route name	Passed

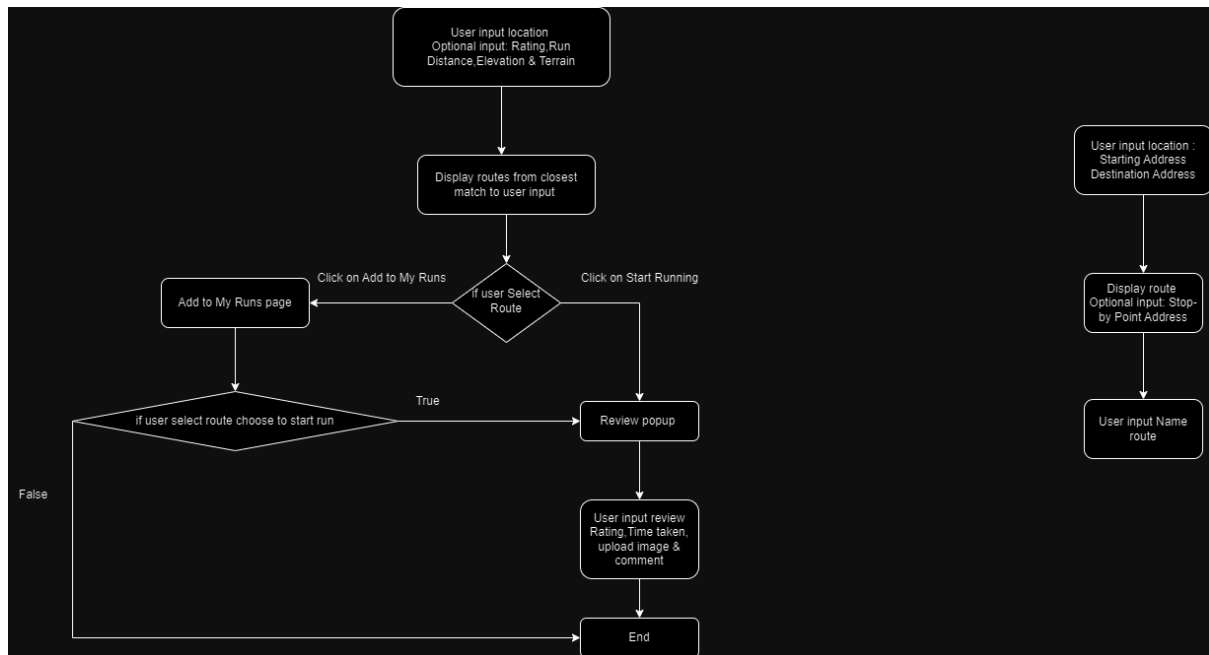
## 1.8. My Runs Page Functionality

Test Case No.	Inputs	Expected Result	Test Result	Result
1	My Runs	Load user history reviewed and to be reviewed routes, if route is reviewed show user rating and comments, if not show button to review route	Load user history reviewed and to be reviewed routes, if route is reviewed show user rating and comments, if not show button to review route	Passed
2	Click on reviewed route	Display route on map, and leaderboard	Display route on map, and leaderboard	Passed
3	Click on to be reviewed route	Display route on map	Display route on map	Passed
4	Clicking review route	Prompt user input rating, comment, duration, and upload image	Prompt user input rating, comment, duration, and upload image	Passed
5	How was your experience: 0 Time Taken:01:00:00 Comment :<Empty> Image: <uploaded>	Prompt user input 1 to 5 stars	Prompt user input 1 to 5 stars	Passed
6	How was your experience: 1 Time Taken: 02:00:00 Comment :<Empty> Image: <uploaded>	Route will be reviewed and page reloads to show route with review and image	Route will be reviewed and page reloads to show route with review and image	Passed
7	How was your experience: 5 Time Taken:00:11:00 Comment : Great route Image: <uploaded>	Route will be reviewed and page reloads to show route with review and image	Route will be reviewed and page reloads to show route with review and image	Passed
8	Select filter option and scroll down the list (Reviewed, Unreviewed, Favourited, Created)	The list shows all routes based on the filtered option	The list shows all routes based on the filtered option	Passed

## 1.9. Others Functionality

Test Case No.	Inputs	Expected Result	Test Result	Result
1	Using Any Web Browser	Success	Success	Passed
2	Sidebar can be use to refresh selected page	Success	Success	Passed
3	Sidebar navigation to be linked and have same format throughout website	Success	Success	Passed

## State based testing



This shows the control flow for browse and custom routes. This is used to test if the logic implemented is as intended.



## Control Flow Graph (CFG)

### handleAddNewReview

**Path Coverage:** Ensure that each path through the CFG is covered by tests. This means creating specific test cases for:

**numStars** is 0.

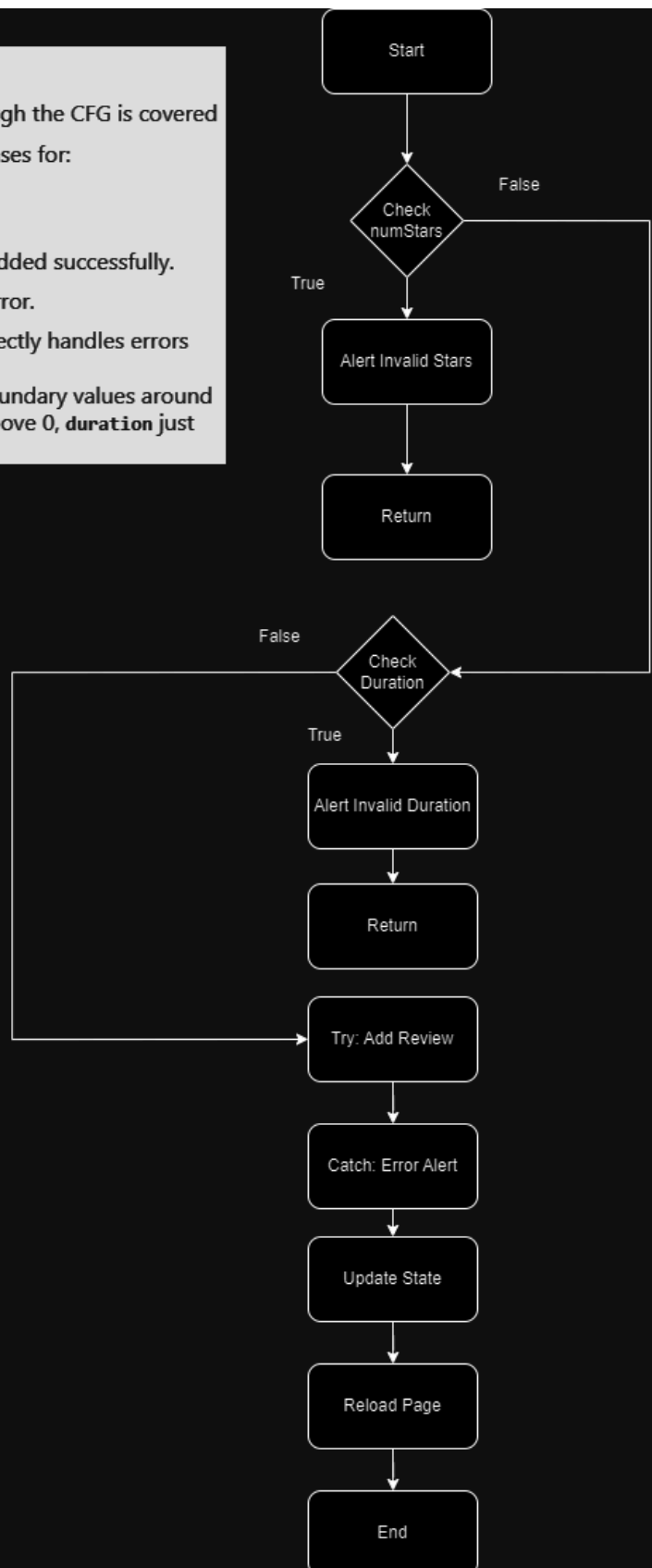
**duration** is '00:00:00'.

Both inputs are valid, and the review is added successfully.

The `addNewReview` operation throws an error.

**Error Handling:** Verify that the function correctly handles errors during the review addition process.

**Boundary Tests:** Particularly focus on the boundary values around the conditional checks (e.g., **numStars** just above 0, **duration** just above '00:00:00').



## controlSelectRoute

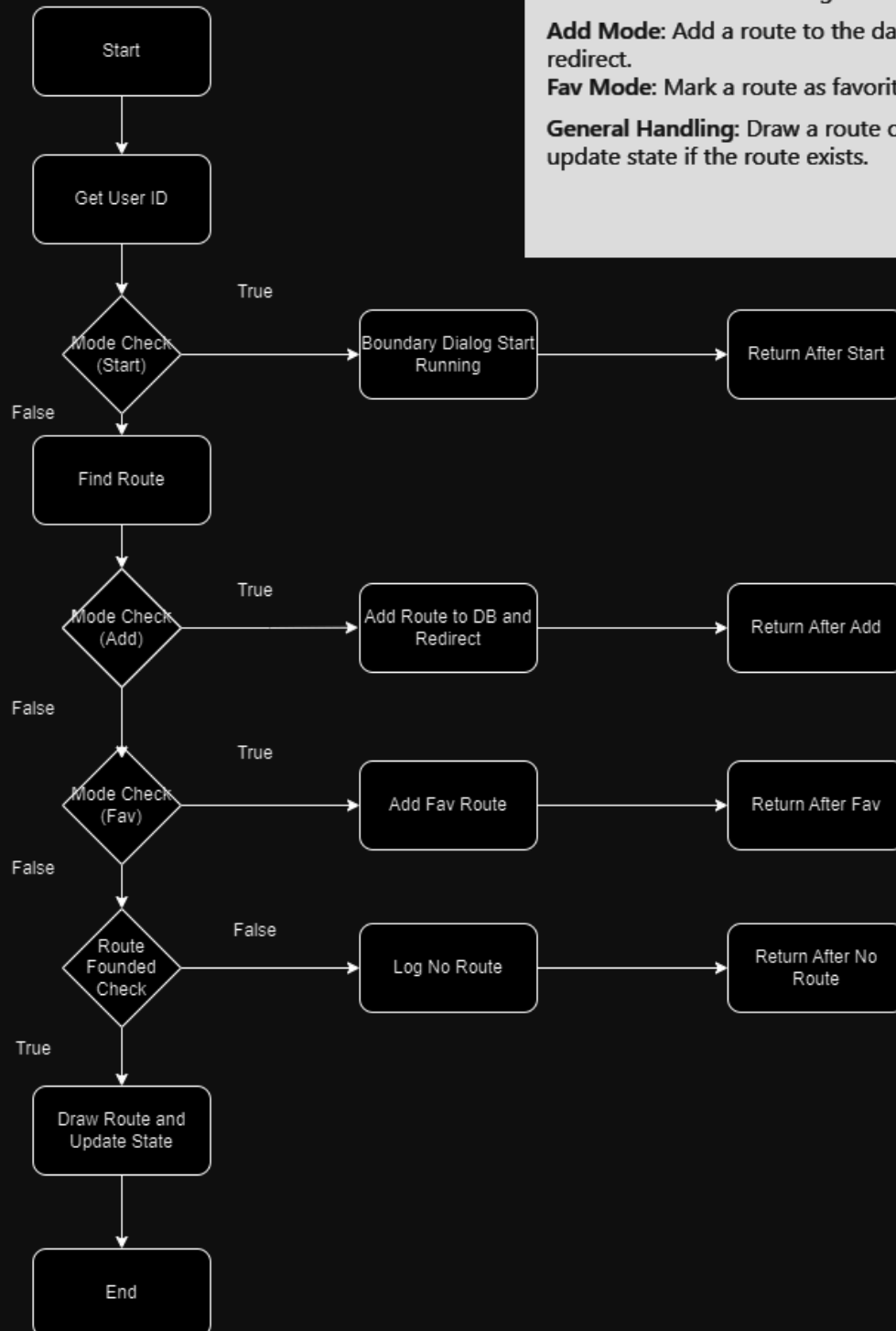
function performs different actions based on the **mode** parameter, manipulating routes for a user:

**Start Mode:** Start a running activity.

**Add Mode:** Add a route to the database and redirect.

**Fav Mode:** Mark a route as favorite.

**General Handling:** Draw a route on a map and update state if the route exists.



The CFGs for adding a review and selecting a route is used to check if the flow is implemented correctly with the given input (clicks and selections).