

Black Box Testing:

1. Create Account:

a. Generic cases

No.	Scenario	Expected Result	Actual Result
1.	Register with all valid fields.	System redirects user to goal selection screen (or next setup step)	System redirected to "What's Your Goal?" screen (Code 200).
2.	Register with missing fields (e.g. email)	System prompts user to fill up the missing field(s)	No prompt/message shown; user stays on the same screen silently.
3.	Register with weak password	System prompts user to use a stronger password with proper validation message	System shows "The password provided is too weak" (Code 200).
4.	Register with mismatched passwords	System prompts user to re-enter matching passwords	System shows "Passwords do not match" (Code 200).
5.	Register with existing email	System alerts that the email is already in use	System shows "An account already exists with that email" (Code 200).

b. Specific cases

Email	First Name	Last Name	Password	Confirm PW	Expected result	Actual result
User@gmail.com	User	S	Testpw123!	Testpw123!	200-Valid	System redirected to "What's Your Goal?" screen (Code 200)
(empty)	User1	S	Test@1	Test@1	422 – Not processable (Email required)	No prompt/message shown; user stays on same screen silently
User1@gmail.com	User2	S	test	test	200 - Invalid (Weak password)	System shows "The password provided is too weak" (Code 200)
abc@gmail.com	User3	S	Test@4	Test@5	200 - Invalid (Password mismatch)	System shows "Passwords do not match" (Code 200)
User@gmail.com	User4	S	Testpw@1	Testpw@1	200 - Invalid (Email already registered)	System shows "An account already exists with that email"

2. Login:

a. Generic Cases:

No.	Scenario	Expected Result	Actual Result
1.	Login with valid email and password	System redirects user to home screen/dashboard (Code 200)	System redirected to dashboard screen with welcome and stats (Code 200)
2.	Login with wrong email	System shows message "No user found for that email" (Code 401)	System showed "No user found for that email" (Code 401)
3.	Login with wrong password	System shows message "Wrong password provided for that user." (Code 401)	System showed message "Wrong password provided for that user." (Code 401)
4.	Login with empty email field	User stays silently on login screen (no visible error)	No prompt shown; user stayed silently on login screen (no visible error)
5.	Login with empty password field	User stays silently on login screen (no visible error).	No prompt shown; user stayed silently on login screen (no visible error).

b. Specific Cases:

Email	Password	Expected Result	Actual Result
Harshia3@gmail.com	Test@5	System redirects user to home screen/dashboard (Code 200)	System redirected to dashboard screen with welcome and stats (Code 200)
Harshia4@gmail.com	Test@5	System shows message "No user found for that email" (Code 401)	System showed message "No user found for that email" (Code 401)
Harshia3@gmail.com	Test@4	System shows message "Wrong password provided for that user." (Code 401)	System showed message "Wrong password provided for that user." (Code 401)
(empty)	Test@4	User stays silently on login screen (no visible error)	User stayed silently on login screen (no visible error)
Harshia3@gmail.com	(empty)	User stays silently on login screen (no visible error)	User stayed silently on login screen (no visible error)

3. Goal Selection Screen

a. Generic cases:

No.	Scenario	Expected Result	Actual Result
1.	Tap any goal button, then Next	Proceed to Physical activity level screen	Navigated to Physical Activity Level screen (Code 200)
2.	Tap Next without selecting a goal	User stays silently on goal selection screen (no visible error)	No prompt/message shown; user stays on the same screen silently
3.	Tap back	Returns to Login screen	Returned to Login screen

b. Specific cases:

No.	Scenario	Expected Result	Actual Result
1.	Get Fitter, then next	Navigate to Physical Activity Level (Code 200)	Navigated to Physical Activity Level screen (Code 200)
2.	Gain weight, then next	Navigate to Physical Activity Level (Code 200)	Navigated to Physical Activity Level screen (Code 200)
3.	Lose weight, then next	Navigate to Physical Activity Level (Code 200)	Navigated to Physical Activity Level (Code 200)
4.	Reduce stress, then next	Navigate to Physical Activity Level (Code 200)	Navigated to Physical Activity Level (Code 200)

5.	Stay Healthy, then next	Navigate to Physical Activity Level (Code 200)	Navigated to Physical Activity Level (Code 200)
6.	(none), then next	User stays silently on goal selection screen (no visible error)	No prompt/message shown; user stays on the same screen silently

4. Physical Activity Screen

a. Generic cases:

No.	Scenario	Expected Result	Actual Result
1.	Select the physical activity level	Proceed to Personal Details screen	Navigated to Personal details screen
2.	Tap Next without selecting	User stays on physical activity level screen (no visible error)	No prompt/message shown; user stays on the same screen
3.	Tap Back	Returns to Login screen	Returned to Login screen

b. Specific cases:

No.	Scenario	Expected Result	Actual Result
1.	Beginner, then next	Proceed to Personal Details screen (Code 200)	Navigated to Personal Details Screen (Code 200)
2.	Intermediate, then next	Proceed to Personal Details screen (Code 200)	Navigated to Personal Details Screen (Code 200)
3.	Advanced, then next	Proceed to Personal Details screen (Code 200)	Navigated to Personal Details Screen (Code 200)
4.	(none), then next	User stays on physical activity level screen (no visible error)	No prompt/message shown; user stays on the same screen

5. Personal details

a. Generic Cases

No.	Scenario	Expected Result	Actual Result
1.	Select Gender Option	Gender is successfully selected with visual indication	Gender option selected and visually highlighted as expected.
2.	Input height	Height value is accepted and displayed	Height value is accepted and displayed in the input field
3.	Input weight	Weight value is accepted and displayed	Weight value is accepted and displayed in the input field
4.	Input age	Age value is accepted and displayed	Age value is accepted and displayed in the input field

b. Specific Cases

No	Scenario	Expected Result	Actual Result
1.	Select gender, then change to a different gender	Selection updates correctly with proper visual indication	Gender selection changed successfully with updated visual indication. Highlighted blue for Males, pink for Females
2.	Enter invalid height value (e.g., negative number or unrealistically large value)	Error message displays	Error message displayed: "Please enter a valid height between 50-200cm", Next button disabled.
3.	Enter invalid weight value (e.g., zero or non-numeric characters)	Error message displays	Error message displayed: "Please enter a valid height between 20-250kg", Next button disabled.
4.	Submit form with one or more empty required fields	Error message displays	Error message displayed: "Please enter both height and weight", Next button disabled.

6. Workout:

a. Generic Cases:

No.	Scenario	Expected Result	Actual Result
1.	Click on the workout tab on the home screen	System redirects the user to the workout screen	System redirected to workout screen showing different types of workouts available
2.	Click on any type of classic workout given	System should show the exercises for the selected workout	System displays the list of exercises along with the "Level", "Time" and the "Focus Area"
3.	Click on any exercise	System should give information about the exercise	System gives details as well as instructions about the selected exercise
4.	Click on start workout	System should start the workout	Workout session begins successfully along with the necessary displays and the stopwatch for the first exercise
5.	Pause workout	System should stop the exercise	Workout session paused and the timer is stopped
6.	Resume workout	System should start the exercise again	Exercise gets resumed and the timer starts counting down again
7.	End Workout	System should stop the entire session	The system stops the workout and redirects to a screen which shows the necessary statistics

b. Specific Cases:

No.	Action	Expected Result	Actual Result
1.	Start Abs workout for the Beginner level	System should show the exercises for the selected workout	System displays the list of exercises along with the

			"Time" and the "Focus Area"
2.	Click on "3/4 Sit-Up" exercise	System should give information about the exercise	System gives details as well as instructions about the selected exercise
3.	Click on "Next Exercise"	Screen should be showing time for rest	The screen shows the timer for rest time as well as the option for skipping the rest

7. History:

a. Generic Cases:

No.	Scenario	Expected Result	Actual Result
1.	Click on the History tab	All the workouts done should be listed with relevant information	All the workouts done by the user are listed chronologically along with details about the workout plan, exercises completed, calories, duration, date and time

8. Dashboard

a. Generic Cases

No.	Scenario	Expected Result	Actual Result
1.	Click on the Summary tab	System redirects the user to the dashboard screen showing the past week's activity	System successfully redirected to dashboard screen showing a 7-day activity with current date highlighted

2.	Dashboard data refreshes once workout is completed	Dashboard shows newly updated data. Both calorie burned and time spent is updated.	Dashboard automatically updates calorie, data and graph without manual refresh. Shows the workout done and updated points as well.
3.	Navigate between days within the past week	System displays the correct day's workout summary when selected	Dashboard successfully switched to display the specific date's data instantly when tapped. Historical data for the past 7 days accurately displayed with distinct workout information for each day.
4.	Load dashboard on the first app launch of the day	System displays the current day data.	System correctly displays the current date's data as 0 calorie and 0 mins as no activity is loaded for that day yet.

b. Specific Cases

No.	Scenario	Expected Result	Actual Result
1.	Complete a workout and immediately check dashboard	Dashboard reflects the new workout in summary	Dashboard successfully showed the new workout completed with accurate calorie and time spent and reflected on graph.
2.	Check multiple workouts on the same day	Dashboard correctly aggregates all workout showing total calories and time for that day	Dashboard showed combined statistics from 2 abs workout as 92kcal and 16.2 minutes.

3.	View a day with no workout activity	Dashboard displays zero values	Days with no workout showed 0 calories and 0 minutes and accurately reflected on the graph.
4.	Test calorie calculation accuracy	Calorie count match expected calculation based on workout intensity and duration	Calorie count of 90 kcal for a 16minute basic workout for an 80kg user is within expected range based on intensity and user profile
5.	Test time tracking accuracy	Time displayed matches actual time spent during workout sessions	Dashboard correctly displayed time spent as 16 minutes matching the actual time spent exercising
	Check historical data persistence	Previous days' data remains viewable and accurate after multiple app sessions	After closing and reopening the app multiple times at different times of the day, all historical data from past week remained intact and unchanged

9. Gamification

a. Generic Cases

No.	Scenario	Expected Result	Actual Result
1.	Click on the leaderboard tab	System redirects the user to the leaderboard screen showing ranked friends list	System successfully loaded the leaderboard screen showing the ranked list of friends with clearly marked position

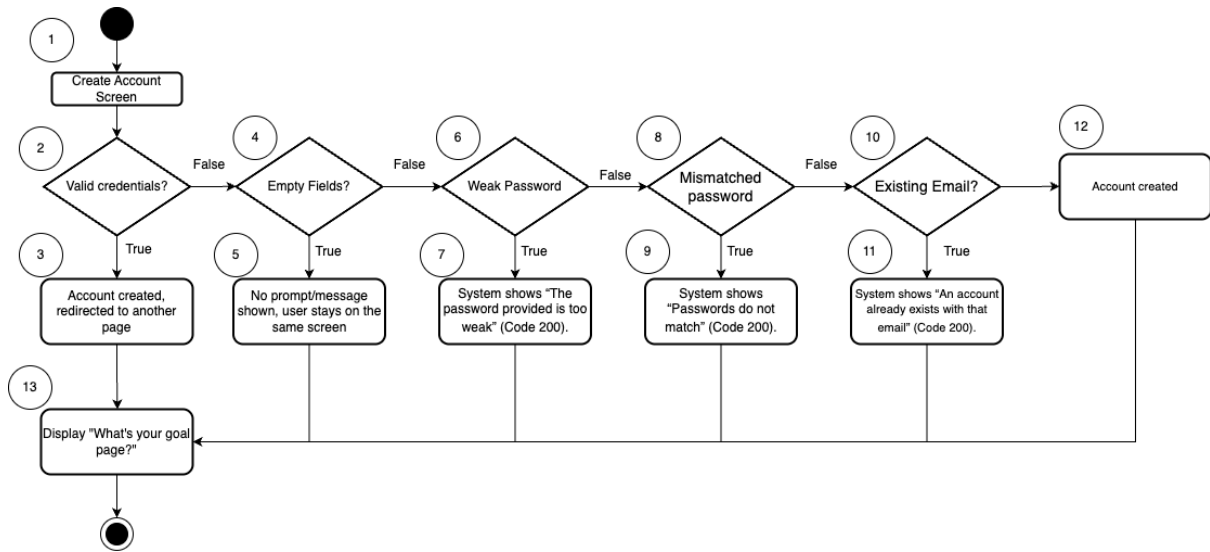
2.	View leaderboard on first app launch of the day	System correctly displays updated rankings including today's activities	Leaderboard loads current rankings and updates points accordingly within 3 seconds
3.	XP level updated once user completes workout		

b. Specific Cases

No.	Scenario	Expected Result	Actual Result
1.	Complete a workout and check leaderboard position change	Leaderboard reflects new points/position based on workout completion	All the workouts done by the user are listed chronologically along with details about the workout plan, exercises completed, calories, duration, date and time
2.	Check user indicators for top 3 positions	System shows special indicators for 1 st , 2 nd and 3 rd	1 st place displays gold medal, 2 nd place displays silver medal, 3 rd place displays bronze medal.
3.	Test sorting accuracy	Users are correctly sorted based on points	Verified ranking matched point totals with 1 st place (11145 points), 2 nd place (5000 points), 3 rd place (39 points)

White Box Testing

1. Create Account:



Cyclomatic Complexity

Formula

CC Calculation

| Binary decisions | +1

5+1=6

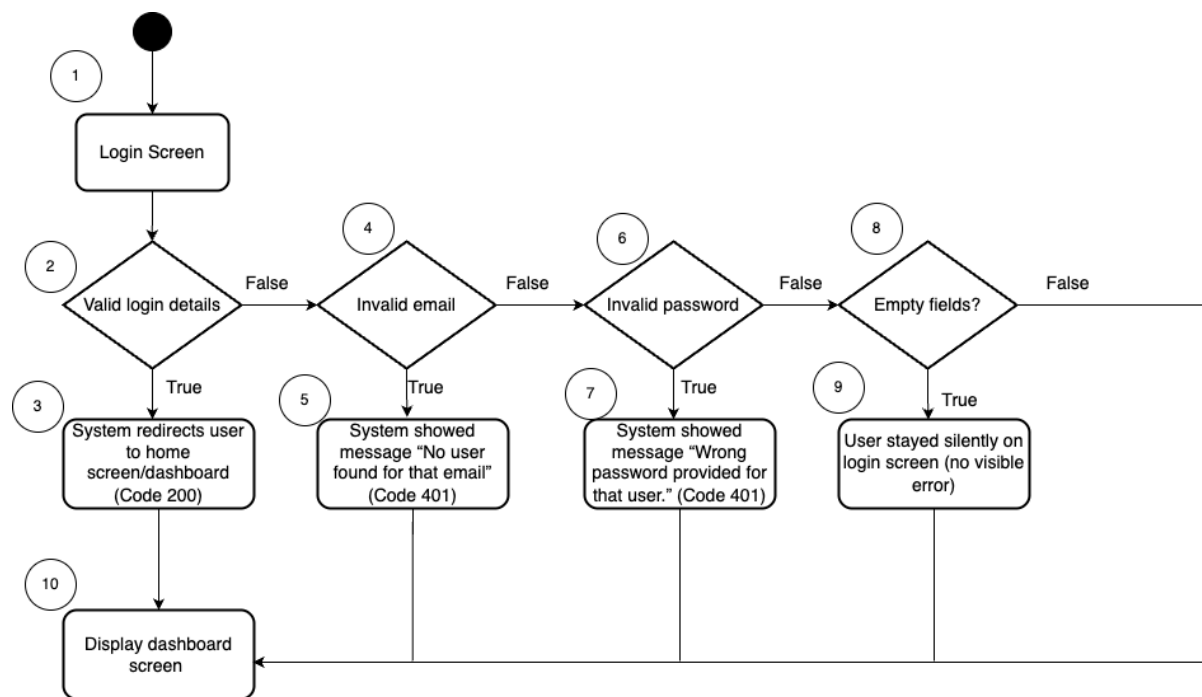
| edges | - | nodes | +2

18-13 +2 = 7

Basis Path Testing

Email	First Name	Last Name	Password	Confirm PW	Valid details	Path Taken
User@gmail.com	User	S	Testpw123!	Testpw123!	Yes	1 → 2 → 3 → 13
(empty)	User1	S	Test@1	Test@1	No	1 → 2 → 4 → 5 → 13
User1@gmail.com	User2	S	test	test	No	1 → 2 → 4 → 6 → 7 → 13
abc@gmail.com	User3	S	Test@4	Test@5	No	1 → 2 → 4 → 6 → 8 → 9 → 13
User@gmail.com	User4	S	Testpw@1	Testpw@1	No	1 → 2 → 4 → 6 → 8 → 10 → 12 → 13

2. Login



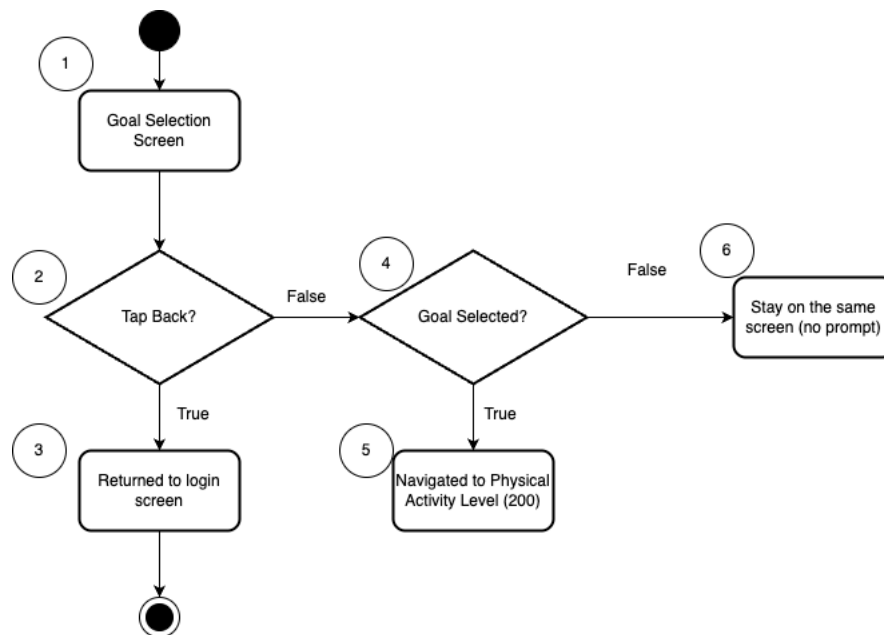
Cyclomatic Complexity

Formula	CC Calculation
Binary decisions +1	4+1=5
edges - nodes +2	14-10+2 = 6

Basis Path Testing

Email address	Password	Valid login	Path taken
Harshia3@gmail.com	Test@5	Yes	1 → 2 → 3 → 10
Harshia4@gmail.com	Test@5	No	1 → 2 → 4 → 5 → 10
Harshia3@gmail.com	Test@4	No	1 → 2 → 4 → 6 → 7 → 10
(empty)	Test@4	No	1 → 2 → 4 → 6 → 8 → 9 → 10
Harshia3@gmail.com	(empty)	No	1 → 2 → 4 → 6 → 8 → 9 → 10

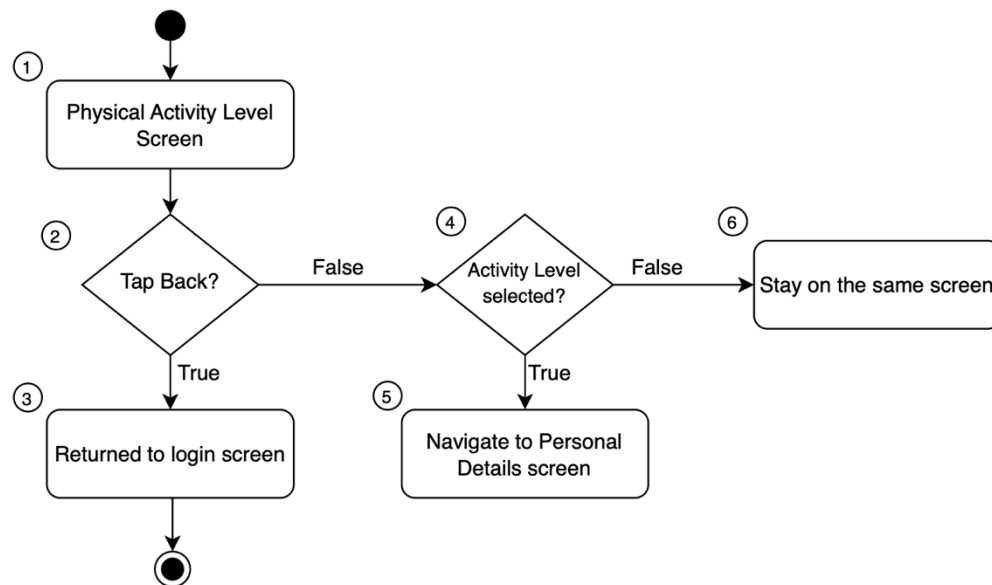
3. Goal Selection Screen



Cyclomatic Complexity	
Formula	CC Calculation
Binary decisions +1	2+1=3
edges - nodes +2	7-6+2 = 3

Basis Path Testing			
Goal	Scenario	Valid	Path taken
Get Fitter	Tap "Get Fitter", then next	Yes	1 → 2 → 4 → 5
None	Tap "Next" without selecting goal	No	1 → 2 → 4 → 6
Back button tapped	Tap back	No	1 → 2 → 3

4. Physical Activity Level Screen

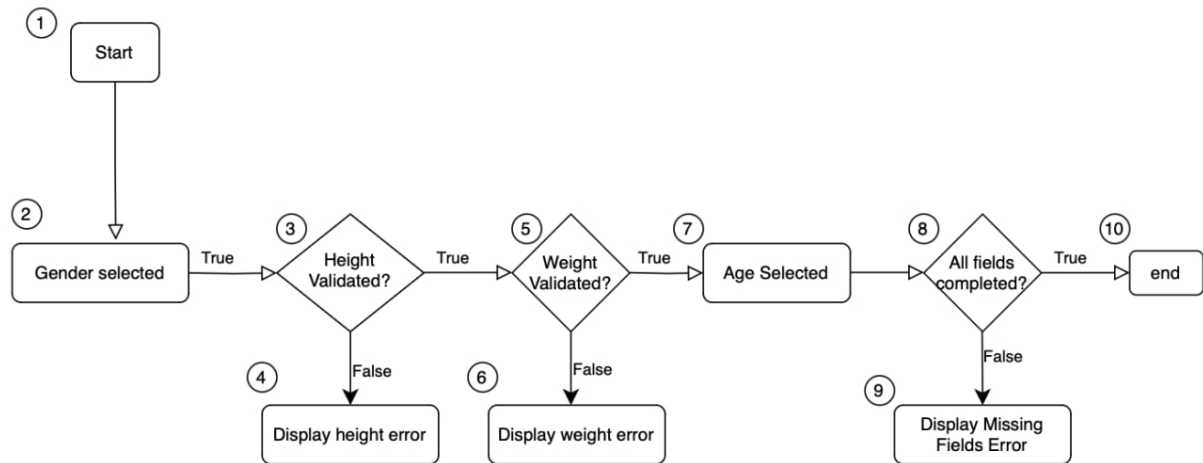


Cyclomatic Complexity	
Formula	CC Calculation
Binary decisions +1	2+1=3
edges - nodes +2	7-6+2 = 3

Basis Path Testing			
Level	Scenario	Valid	Path taken
Beginner	Tap “Beginner”, then next	Yes	1 → 2 → 4 → 5
None	Tap “Next” without selecting activity level	No	1 → 2 → 4 → 6
Back button tapped	Tap back	No	1 → 2 → 3

5. Personal details

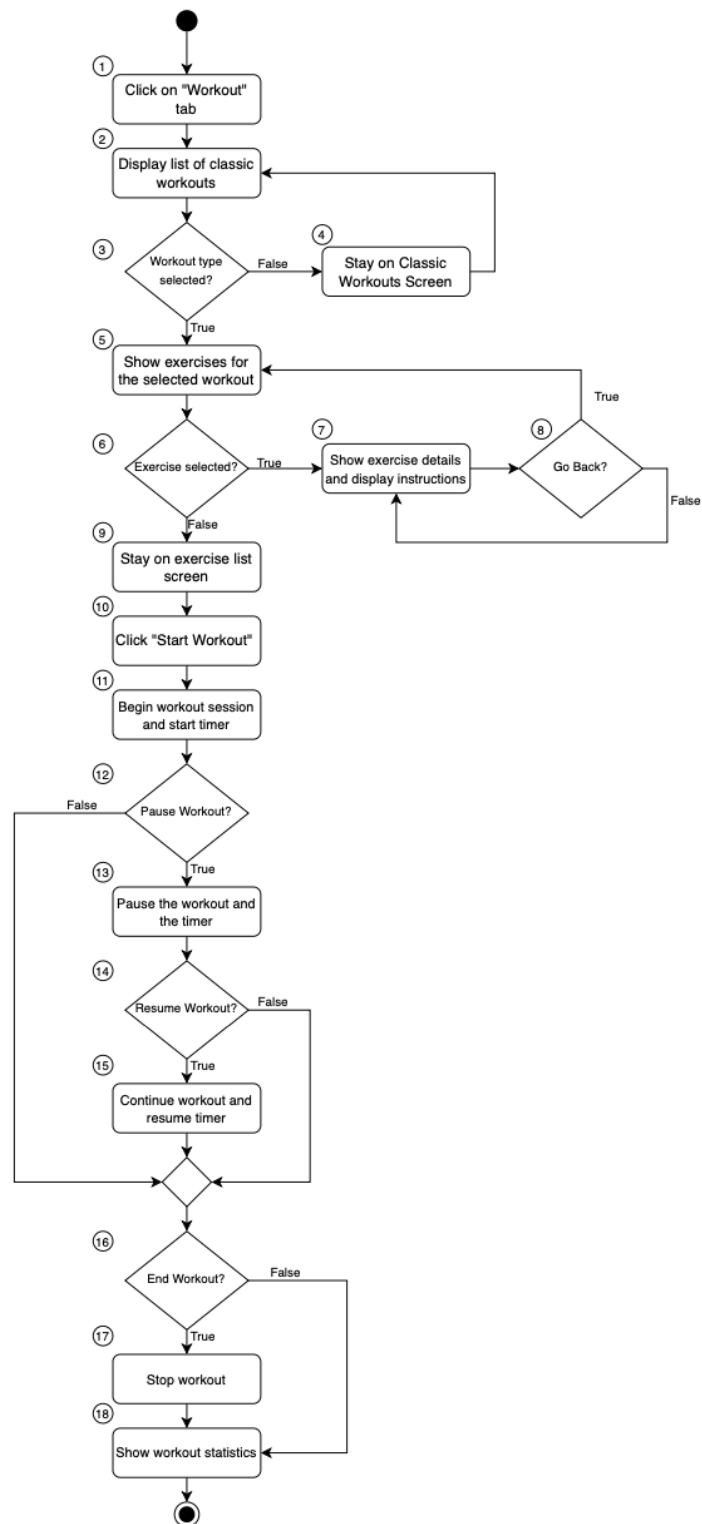
a. Generic Case



Cyclomatic Complexity	
Formula	CC Calculation
Binary decisions +1	3+1=4
edges - nodes +2	9 - 8 + 2 = 3

Basis Path Testing			
No.	Scenario	Valid	Path taken
1.	All fields correctly filled up	Yes	1 → 2 → 3 → 5 → 7 → 8 → 9 → 10
2.	Invalid height	No	1 → 2 → 3 → 4
3.	Invalid weight	No	1 → 2 → 3 → 5 → 6
4.	Missing fields	No	1 → 2 → 3 → 5 → 7 → 8 → 9

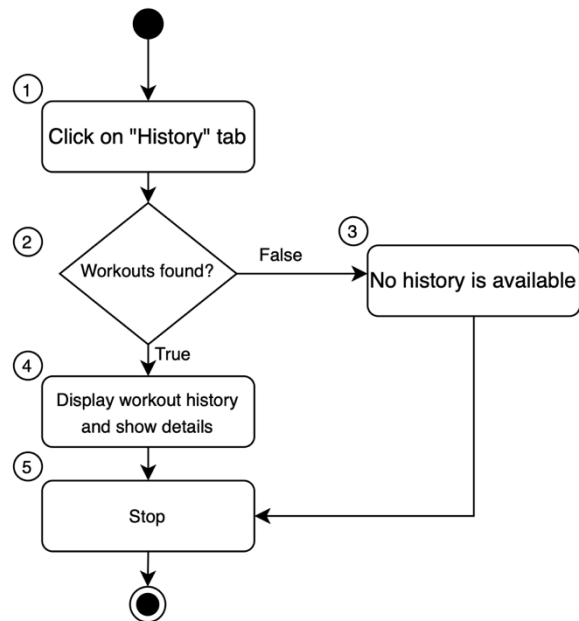
6. Workout



Cyclomatic Complexity	
Formula	CC Calculation
Binary decisions +1	6+1=7
edges - nodes +2	24-18+2=8

Basis Path Testing	
Action	Path taken
Select a classic workout type	1→2→3→5
Workout type is not selected	1→2→3→4→2
Select an exercise from the workout plan and go back to the workout plan selected	1→2→3→5→6→7→8→5
Start workout	1→2→3→5→6→9→10
Pause workout	1→2→3→5→6→9→10→11→12→13
Resume workout	1→2→3→5→6→9→10→11→12→13→14→15
Finish workout without pausing	1→2→3→5→6→9→10→11→12→16→17→18

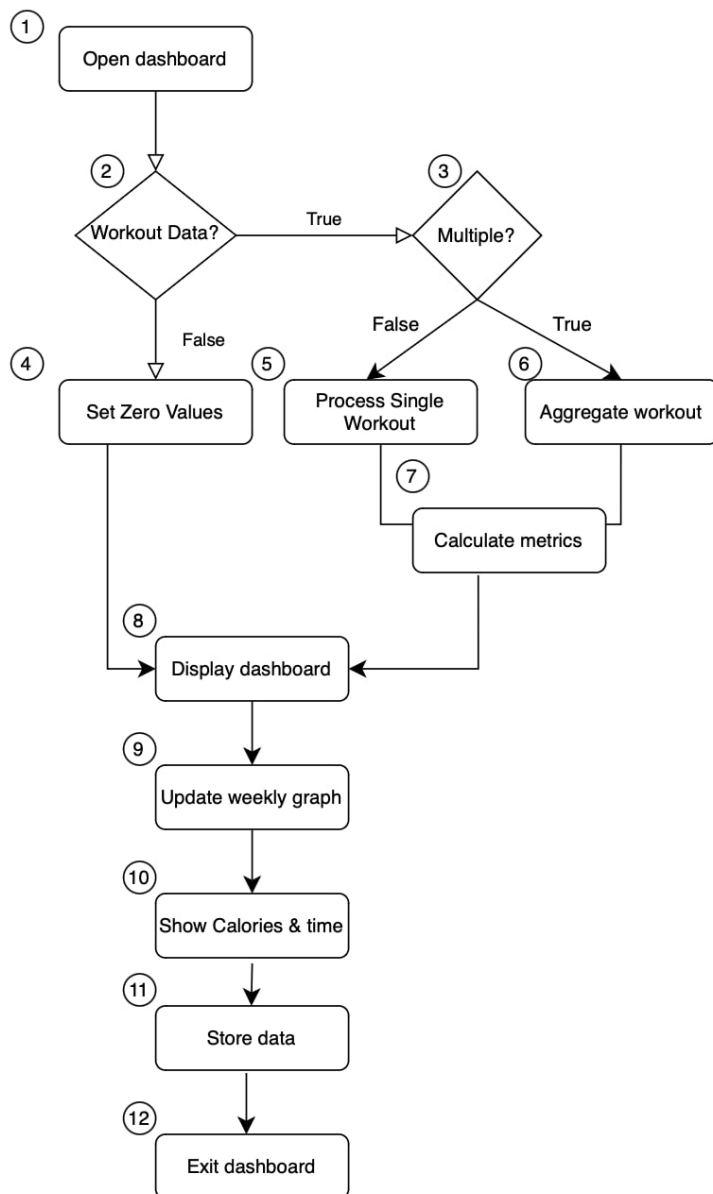
7. History



Cyclomatic Complexity	
Formula	CC Calculation
Binary decisions +1	1+1=2
edges - nodes +2	6-5+2=3

Basis Path Testing	
Action	Path taken
View history if user has done workouts	1→2→4→5
If user has not done any workouts	1→2→3→5

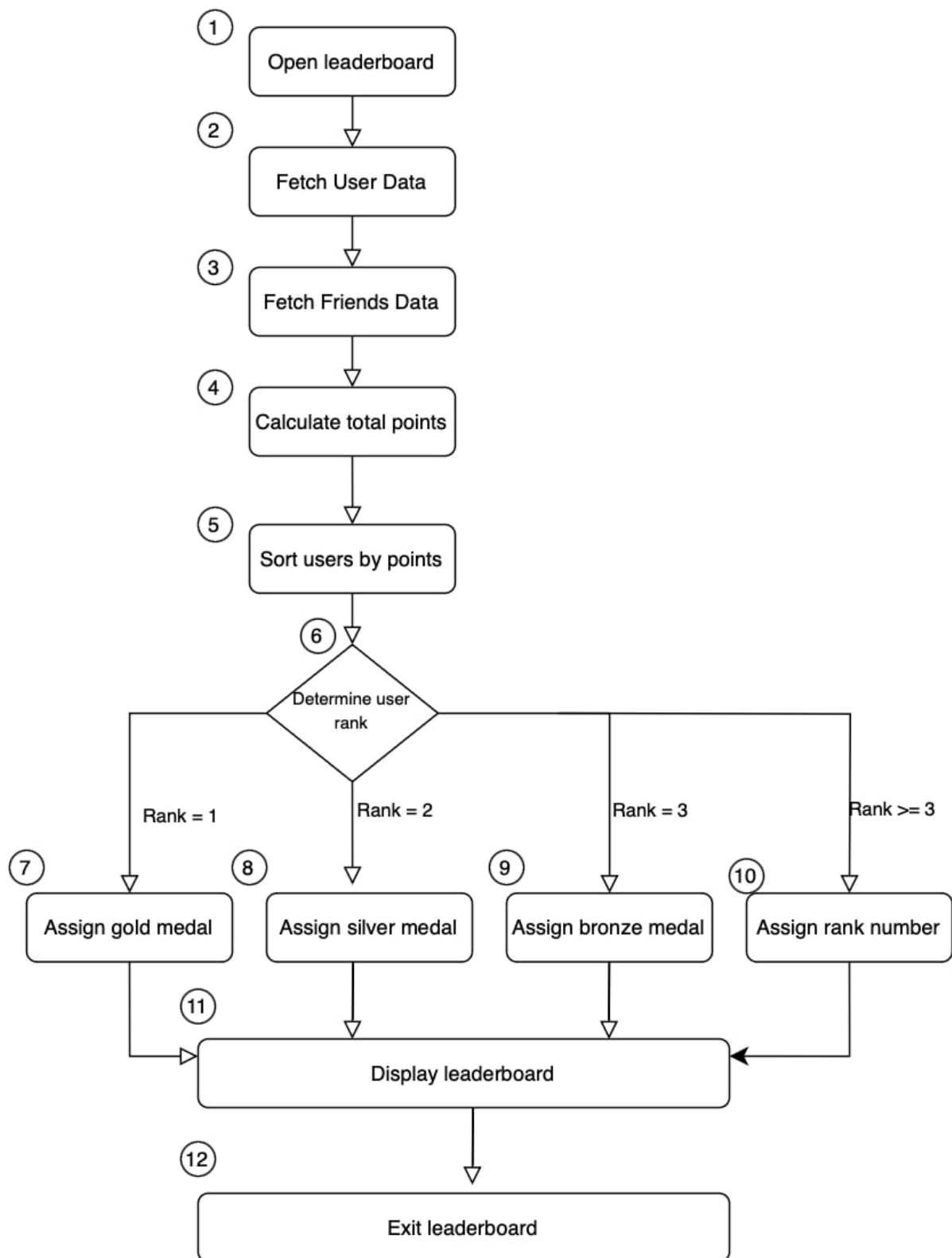
8. Dashboard



Cyclomatic Complexity	
Formula	CC Calculation
Binary decisions +1	2+1=3
edges - nodes +2	13-12+2=3

Basis Path Testing	
Action	Path taken
Complete a workout and check dashboard	1→2→3→5→7→8→9→10→11→12
Complete multiple workouts and check dashboard	1→2→3→6→7→8→9→10→11→12
No workouts completed	1→2→4→8→9→10→11→12

9. Gamification



Cyclomatic Complexity	
Formula	CC Calculation
Binary decisions +1	4+1=5
edges - nodes +2	11-12+2=1

Basis Path Testing	
Action	Path taken
Complete a workout and check leaderboard position change	1→2→3→5→7→8→9→10→11→12