Test Case ID Backend	Function Being Tested	Test Case	Input	Expected outcome	Actual Outcome	Result
#TC1_B	Login	Valid Credentials	curl -X POST http://localhost:3003/login -d '{"email": "arvikrishna03@gmail.com", "password": "1234"}' -H "Content-Type: application/json"	logged in Successfully	logged in Successfully	Pass
#TC2_B	Login	Invalid Credentials	curl -X POST http://localhost:3003/login -d '{"email": "arvikrishna03@gmail.com", "password": "1234tdgd"}' -H "Content-Type: application/json"	failed to login	failed to login	Pass
#TC3_B	Login	non existent use	curl -X POST http://localhost:3003/login -d '{"email": "invalid@gmail.com", "password": "tdgd"}' -H "Content-Type: application/json"	failed to login	failed to login	Pass
#TC4_B	Sign up	existing user	curl -X POST http://localhost:3003/signup -d '{"fname": "Jane", "lname": "Smith", "email": "new@email.com", "program": "Software Engineering", "password": "abcdef", "year": "2"}' -H "Content-Type: application/json"	user already exits	user already exits	Pass
#TC5_B	Sign up	new user	curl -X POST http://localhost:3003/signup -d '{"fname": "Jane", "lname": "Smith", "email": "new@email.com", "program": "Software Engineering", "password": "abcdef", "year": "2"}' -H "Content-Type: application/json"	creates a new user	creates a new user	Pass
#TC6_B	Sign up	not all columns	arvindkri03/signup -d '{"fname": "Alice", "lname": "Johnson", "email": "alice@email.com", "program": "Engineering"}' -H "Content-Type: application/json"	invalid entry	invalid entry	Pass
#TC7_B	Get user courses	Valid user email	curl -X POST http://localhost:3003/user-courses -d '{"email": "arvikrishna03@gmail.com"}' -H "Content-Type: application/json"	invalid data	invalid data	Pass
#TC8_B	Get user courses	Invalid user email	curl -X POST http://localhost:3003/user-courses -d '{"email": "invalid@gmail.com"}' -H "Content-Type: application/json"	invalid data	invalid data	Pass
#TC9_B	Get posts	Valid Course ID	curl -X GET http://localhost:3003/posts/444	Gives you the Post	Gives you the Post	Pass
#TC10_B	Get posts	Inavlid Course ID	curl -X GET http://localhost:3003/posts/abc	invalid data	invalid data	Pass
#TC11_B	Get posts	Valid Course ID with no posts	curl -X GET http://localhost:3003/posts/401	No post found under this couse ID	No post found under this couse ID	Pass
#TC12_B	Delete posts	Valid Post and User ID	curl -X DELETE http://localhost:3003/delete-post/2/2	Deleted Post	Deleted Post	Pass
#TC13_B	Delete posts	Invalid Post ID	curl -X DELETE http://localhost:3003/delete-post/2/3	invalid data	invalid data	Pass
#TC14_B	Delete posts	Invalid User ID	curl -X DELETE http://localhost:3003/delete-post/3/2	invalid data	Invalid DAta	Pass
#TC15_B	Delete posts	Missing one of them	curl -X DELETE http://localhost:3003/delete-post/2/	Data missing	Data missing	Pass
#TC16_B	Edit posts	All Valid Inputs				Pass
#TC17_B	Edit posts	Invalid post ID or user ID				Pass
#TC18_B	Edit posts	Title/Content too long				Pass
#TC19_B	Edit posts	Empty fields				Pass
#TC20_B	Create Post	Valid Data	curl -X POST http://localhost:3003/create-post -H "Content-Type: application/json" -d '{"userId": "123", "title": "New Post1", "content": "This is a new post", "courseId": "444", "program": "Test Program1"}'	Post is Created	Post is Created	Pass
#TC21_B	Create Post	Missing Data	curl -X POST http://localhost:3000/create-post -H "Content-Type: application/json" -d '{"userId": "123", "title": "New Post", "content": "This is a new post", "program": "Test Program"}'	Data is missing	Data is missing	Pass
#TC22_B	Create Post	Invalid Data	curl -X POST http://localhost:3000/create-post -H "Content-Type: application/json" -d '{"userId": "ABC", "title": "New Post", "content": "This is a new post", "courseId": "444", "program": "Test Program"}'	Invalid data	Invalid Data	Pass
#TC23_B	Get Post Id	Valid Data	curl -X POST http://localhost:3003/postId -H "Content-Type: application/json" -d '{"userId": "456", "title": "New Post2", "content": "This is sec post", "courseId": "404"}'	Gives post id eg: 2	gives post id eg: 2	Pass
#TC24_B	Get Post Id	Invalid Data	curl -X POST http://localhost:3003/postId -H "Content-Type: application/json" -d '{"userId": "456", "title": "New Post2", "content": "This is third post", "courseId": "404"}'	Post not found	Post not found	Pass
#TC25_B	Get Post Id	Invalid Course ID	curl -X POST http://localhost:3003/postId -H "Content-Type: application/json" -d '{"userId": "456", "title": "New Post2", "content": "This is sec post", "courseId": "403"}'	Post not found	Post not found	Pass
#TC26_B	Get Post By Id	Valid ID	curl -X POST http://localhost:3003/postId -H "Content-Type: application/json" -d "{\"userId\":456,\"title\":\"New Post2\",\"content\":\"This is sec post\",\"courseId\":404}"	Gives Post	Gives Post	Pass
#TC27_B	Get Post By Id	non existent ID	curl -X POST http://localhost:3003/postId -H "Content-Type: application/json" -d "{\"userId\":143,\"title\":\"New Post2\",\"content\":\"This is sec post\",\"courseId\":404}"	Post not found	Post not found	Pass
#TC28_B	Get Post By Id	missing ID	curl -X POST http://localhost:3003/postId -H "Content-Type: application/json" -d "{\"userId\":143,\"content\":\"This is sec post\",\"courseId\":404}"	Invalid data	Invalid Data	Pass
#TC29_B	Get Post By Id	Empty ID	curl -X POST http://localhost:3003/postId -H "Content-Type: application/json" -d "{\"userId\":,\"content\":\"This is sec post\",\"courseId\":404}"	Invalid data	Invalid Data	Pass
#TC30_B	Check authorization	User Authorized	curl -X GET http://localhost:3003/check-authorization/1/1	Authorized User	Authorized	Pass
#TC31_B	Check authorization	User Not Authorized	curl -X GET http://localhost:3003/check-authorization/2/1	Unauthorized	Unauthorized	Pass
#TC32_B	Check authorization	User is Missing	curl -X GET http://localhost:3003/check-authorization//1	Invalid data	Invalid data	Pass
#TC33_B	Check authorization	Post ID is invalid	curl -X GET http://localhost:3003/check-authorization/1/xyz	Invalid data	Invalid Data	Pass

Test Case #	Use Case	Function Being Tested	Initial Systems State	Input	Expected Output	Actual Output	Result
#TC1_F	User signs up	Sign Up	Application launched	Username : "test@test.com" Password; "test"	Successful signup and redirect to login page	Successful signup and redirect to login page	Pass
#TC2_F	User logs in	Login	Sign-up completed	Username : "test@test.com" Password; "test"	Redirects to home page	Redirects to homepage	Pass
#TC3_F	User adds a new post to a sp	Add New Post	User logged in , sidebar course clicked	Post title: "test" , Post body : "test"	Post successfully added to the selected course	Post successfully added to the selected course	Pass
#TC4_F	User deletes a post	Delete Post	Post displayed in user interface	Click delete button	Confirmation prompt for deletion or post removal	Confirmation prompt for deletion or post removal	Pass
#TC5_F	User edits a post	Edit Post	Post displayed in user interface	Click edit button , make changes,Click submit	Post updated with the edited content	Post updated with the edited content	Pass
#TC6_F	word limit on post title	Title Word Limit	Post creation form displayed	Title: " iiiiiiiiiiiiiiiiiiiiiii…."	Post does not get submitted due to input being beyond word limit.	Post does not get submitted due to input being beyond word limit.	Pass
#TC7_F	word limit on post body	Body Word Limit	Post creation form displayed	Body: " Hiiiiiiiiiiiiiiiiiiiiiiiiiiiiiii…."	Post does not get submitted due to input being beyond word limit.	Post does not get submitted due to input being beyond word limit.	Pass
#TC8_F	User inputs non-existent em	Login Email text box	login page displayed	email: "testing@test.com"	Does not redirect to homepage as email doesn't exist in Database	Does not redirect to homepage as email doesn't exist in Database	Pass
#TC9_F	User inputs wrong email	Login Email text box	Login page displayed	email:"testing"	Error: please put an @ in user email, email format incorrect	Error: please put an @ in user email, email format incorrect	Pass
#TC10_F	Leaves signup page incomple	Sign up	Sign up page displayed	Email left blank	Error: sign up incomplete	Error: sign up incomplete	Pass
#TC11_F	Dark mode functionality	Dark mode button	Home page in light mode	User clicks on dark mode button	Page turns to dark mode	Page turns to dark mode	Pass
#TC12_F	Posting an empty post	Add New Post	Home page	User attempts to post an empty post	Post does not get published as its empty	Post does not get published as its empty	Pass
#TC13_F	Swapping between different	Course Buttons	Home page	User attempts to swap between different courses in home page	Successfully swaps between different courses	Successfully swaps between different courses	Pass

Requirement ID	Functional/Non-Functional	Test Case ID(s)	Functionality Tested	Requirement
#RID_1	Functional	#TC1_F, #TC1_B	User signs up	Users must be able to sign up successfully.
#RID_2	Functional	#TC2_F, #TC2_B	User logs in	Users must be able to log in with valid credentials.
#RID_3	Functional	#TC3_F, #TC20_B	Create Post	Users must be able to add a new post to a specific course.
#RID_4	Functional	#TC4_F, #TC12_B	Delete Post	Users must be able to delete their posts.
#RID_5	Functional	#TC5_F, #TC16_B	Edit Post	Users must be able to edit their posts.
#RID_6	Functional	#TC6_F, #TC22_B	Word limit on post title	Posts must adhere to the specified word limit for the title.
#RID_7	Functional	#TC7_F, #TC22_B	Word limit on post body	Posts must adhere to the specified word limit for the body.
#RID_16	Functional	#TC21_B	Create Post	Users must not be able to create a post if required data is missing.
#RID_17	Functional	#TC23_B, #TC24_B, #TC25_B	Get Post ID	Users must receive valid post ID for valid data and notifications if post is not found or if course ID is invalid.
#RID_18	Functional	#TC26_B, #TC27_B, #TC28_B, #TC29_B	Get Post By ID	Users must receive valid post data for a valid post ID and notifications if post is not found or if ID is missing or empty.
#RID_19	Functional	#TC30_B, #TC31_B, #TC32_B, #TC33_B	Check authorization	Users must be authorized to perform certain actions and receive notifications for unauthorized attempts or missing/invalid data.
#RID_8	Non-Functional	#TC8_F, #TC3_B	User inputs non-existent email	Users must not be able to log in with a non-existent email.
#RID_9	Non-Functional	#TC9_F, #TC3_B	User inputs wrong email	Users must provide a valid email format for login.
#RID_10	Non-Functional	#TC10_F, #TC6_B	Leaves signup page incomplete	Users must fill in all required fields for sign up.
#RID_11	Non-Functional	#TC11_F	Dark mode functionality	Users must be able to switch between dark and light modes.
#RID_12	Non-Functional	#TC13_F	Swapping between different courses	Users must be able to switch between different courses.
#RID_14	Non-Functional	#TC9_B, #TC10_B, #TC11_B	Get posts	Users must receive valid posts for a valid course ID and a notification if no posts are found.
#RID_15	Non-Functional	#TC12_B, #TC13_B, #TC14_B, #TC15_B	Delete posts	Users must be able to delete their posts and receive notifications for invalid data or missing IDs.