SOFTWARE TESTING

SSE3350-1

GROUP PROJECT:

TEST YOUR CODE

(KATODIET SYSTEM)

PREPARED FOR:

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TAB 1

SOFTWARE DESIGN DOCUMENT

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Software Design Specification

KatoDiet System (KDS)
Independence Verification and Validation

Version: 1.0.0
Date: 03/07/ 2022

Document Control

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Document Name	KatoDiet System Software Design Specifications
Reference Number	KDS_SDS
Version	1.0.0
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Version History

Version	Release Date	Section	Amendment
1.0.0	03/07/2022	All	Original document

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1.0 Use Case Diagram

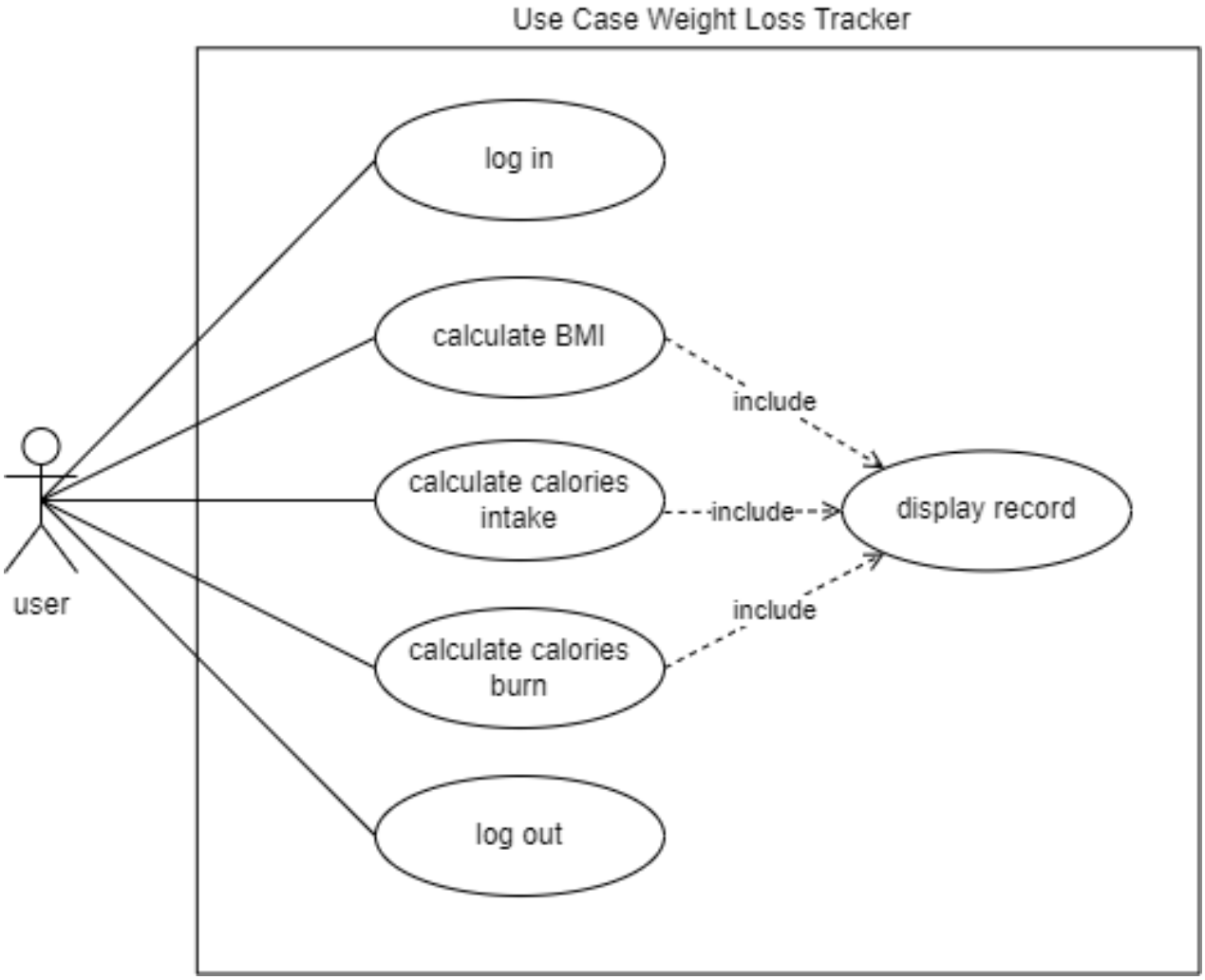

Figure 1.

1.1 Use Case Description

1.1.1 User Log in

Brief Description	The user wants to log in into the web application
Actors	User
Preconditions	The user has registered into the system.
Main Flow	After the user has registered, he will click the login button to go into the login page. He will insert the id and password. If it is correct, he will be logged in and will be directed to the homepage.
Alternative Flows	1. If it is incorrect(either id or password or both is wrong), the user will be redirected to the same login page but there will be an error message at the top of the login form. User needs to re-enter the id and password until both of them are correct. 2. The user can logout by clicking the logout button.
Postconditions	Logged in and into the homepage.

Table 1.

1.1.2 Calculate BMI

Brief Description	A user wants to calculate bmi by insert in date, weight, and height.
Actors	User
Preconditions	The customer has signed on to the system.
Main Flow	After the customer has successfully signed on to the system, the customer clicks on the button that redirects or slides down on the page to the section to calculate bmi. The users need to insert the date, height and weight of the user.The user then submits the information by clicking the submit button.
Alternative Flows	The user does not insert the weight or height, the notification will ask for the user to insert the data.The user inserted the wrong input, such as inserting a similar date, the notification will ask for the user to re-insert the different data.
Postconditions	The record is saved into Katodiet database.

Table 2.

1.1.3 Calculate Calories Intake

Brief Description	A user wants to calculate total calories intake by inserting type of food, date, time and calories intake per food in a particular time.
Actors	User
Preconditions	The customer has signed on to the system.
Main Flow	After the customer has successfully signed on to the system, the customer clicks on the navigation menu button that redirects or slides down on the page to the calculate calories intake section. The users need to insert date, time, type of food, category of food and calories intake per food. Then, the users need to click submit button and the system will display “information successfully recorded” if information successfully added in the database..
Alternative Flows	If the user inserted the wrong input, such as inserting a similar date and time as the previous record, the notification will ask for the user to re-insert the different data.
Postconditions	The record is saved into the database.

Table 3.

1.1.4 Calculate Calories Burn

Brief Description	A user wants to calculate total calories burn by keying in date, time, type of exercise and duration.
Actors	User
Preconditions	The customer has signed on to the system.
Main Flow	After the customer has successfully signed on to the system, the customer clicks on the button that redirects or slides down on the page to the section to calculate calories burn. The users key-in the date, time, type of exercise and duration of exercise. The user then submits the information by clicking the submit button.
Alternative Flows	The user inserted the wrong input, such as inserting a similar date and time as the previous record. The notification will ask for the user to re-insert the different data.
Postconditions	The record is saved into the database.

Table 4.

1.1.5 Display Record

Brief Description	A user wants to display the progress of the food list, exercise list and weight detail list.
Actors	User
Preconditions	The customer has signed on to the system.
Main Flow	After the customer has successfully signed on to the system, the customer clicks on the button 'display my progress' at the homepage. Flow 1 : User display record The users can see the display of their progress which include food list, exercise list and weight detail list. Flow 2 : User edit record After displaying, the user can click the edit button to edit the specific record. Flow 3 : User delete record After displaying, the user can click the dustbin button to delete the specific record.
Alternative Flows	Flow 1: User display record Database could not be fetched. Error window will be displayed. Flow 2: User edit record

	The user did not insert any value, or the wrong type of value before clicking the save button. Flow 3: User delete record The user clicked the cancel button before the delete action was done.
Postconditions	The record update is saved into the database.

Table 5.

1.1.6 User Registration

Brief Description	The users want to register their account in the web application
Actors	Users
Preconditions	The users must have not an existing account
Main Flow	The users click the sign up button to register the account. They need to fill in all the details in the registration form. Then, they click the register button. Success notification will appear at the top of the registration form.
Alternative Flows	If the unsuccessful notification appears, they need to refill the form.
Postconditions	The user can login with the registered account to get into the web application.

Table 6.

2.0 Activity Diagram

2.1 User Log in

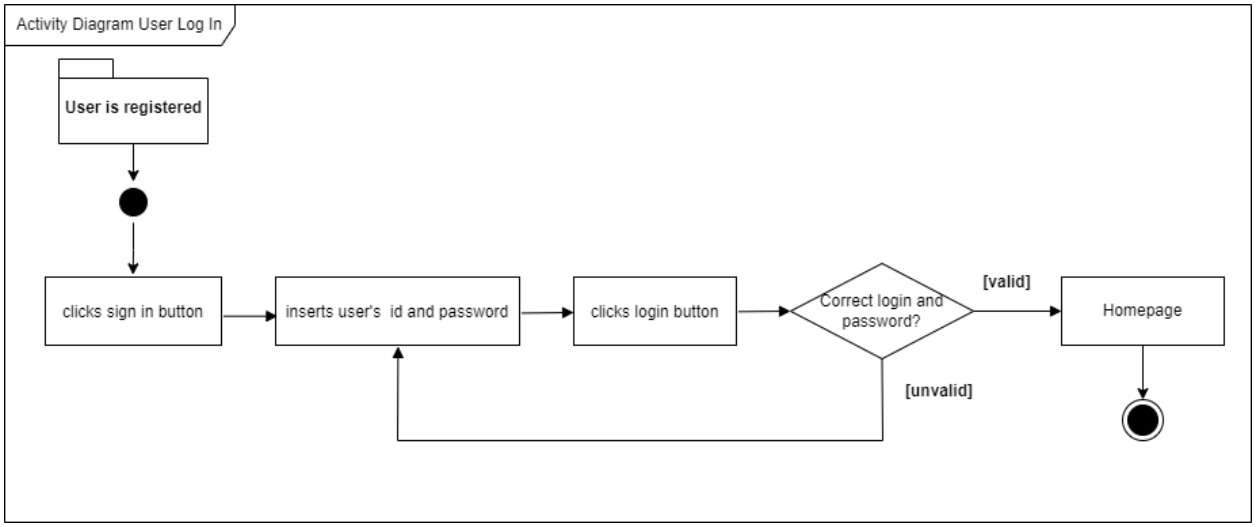

Figure 2.

2.2 Calculate BMI

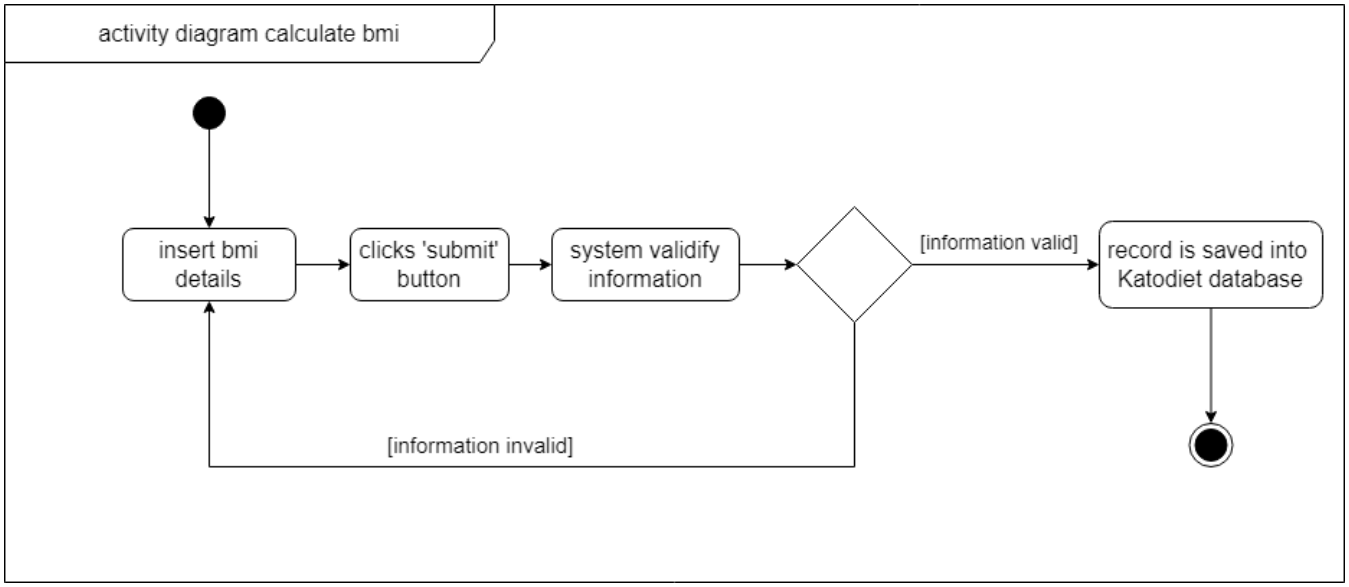

Figure 3.

2.3 Calculate Calories Intake

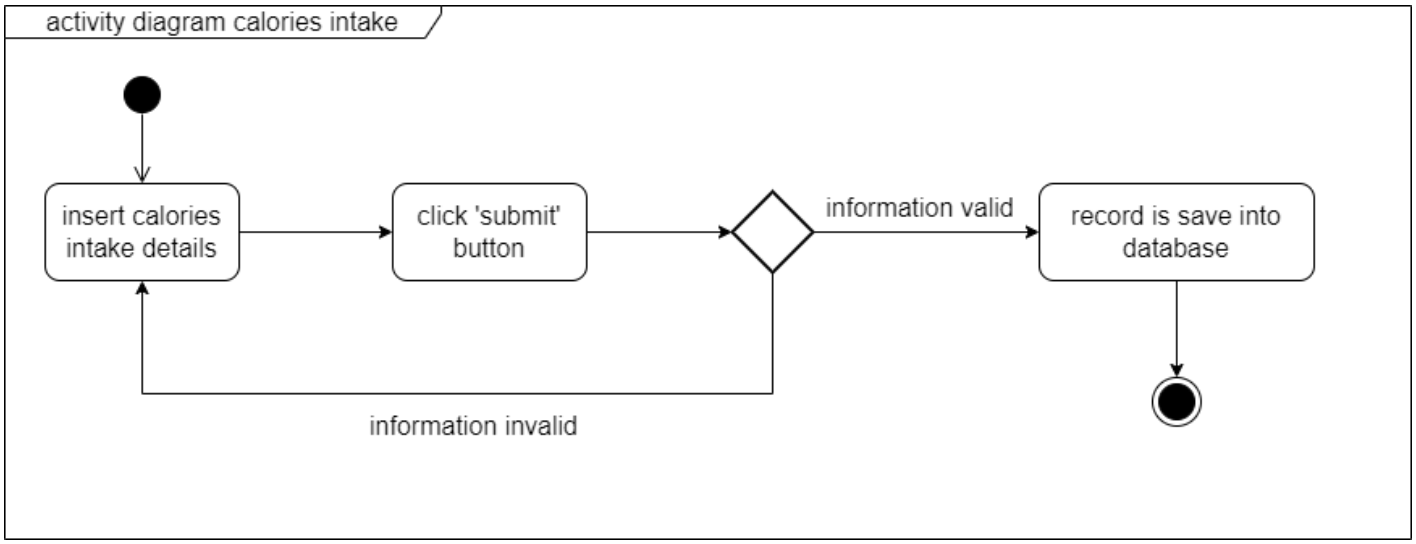

Figure 4.

2.4 Calculate Calories Burn

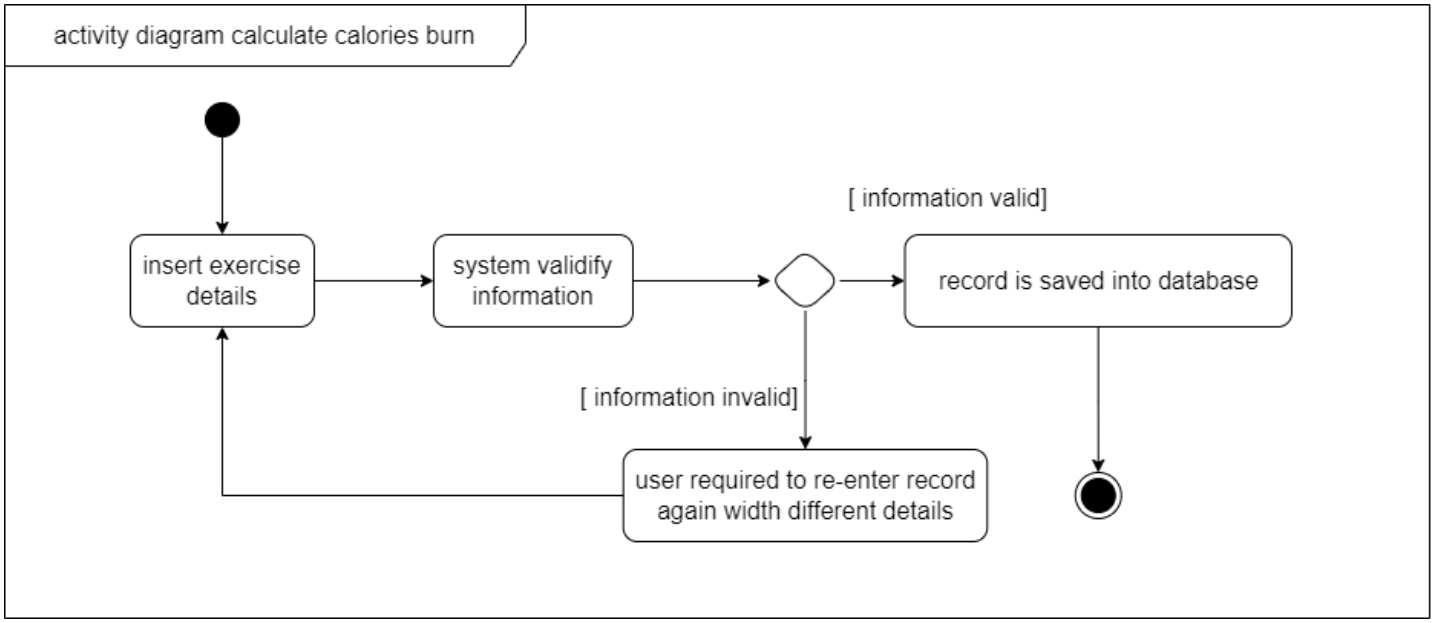

Figure 5.

2.5 User Registration

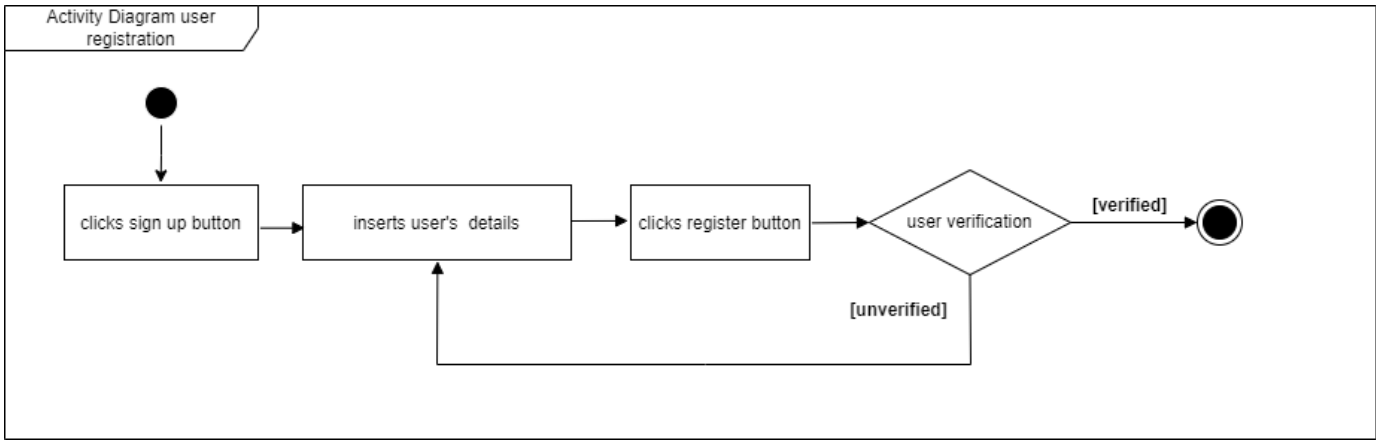

Figure 6.

3.0 Decision Table

3.1 User Log in

Conditions and Actions	**Rule 1**	**Rule 2**	**Rule 3**	**Rule 4**	**Rule 5**
Conditions					
userID length	< 5	5 ≤ userID ≤ 20	5 ≤ userID ≤ 20	5 ≤ userID ≤ 20	> 20
Password length	-	< 7	7 ≤ password ≤ 20	> 20	-
Actions					
Log in			X		
Ask user to re-enter username and password	X	X		X	X

Table 7.

3.2 Calculate BMI

Conditions and Actions	**Rule 1**	**Rule 2**	**Rule 3**	**Rule 4**	**Rule 5**	**Rule 6**
Conditions						
Date - 2	Y	Y	Y	Y	Y	N
Height -3	< 100	101 ≤ Input ≤ 300	101 ≤ Input ≤ 300	101 ≤ Input ≤ 300	> 300	-
Weight -3	-	< 30	31 ≤ Input ≤ 600	> 600	-	-
Actions						
Information saved in database			X			
Ask user to re-enter details	X	X		X	X	
No action taken						X

Table 8.

3.3 Calculate Calories Intake

Conditions and actions	**Rule 1**	**Rule 2**	**Rule 3**	**Rule 4**	**Rule 5**
Conditions					
User selected unique date and time -2	Y	Y	Y	Y	N
User select food category -2	Y	Y	N	N	Y
User insert food name -2	Y	N	Y	N	Y
Actions					
Information saved in database	X				
Ask user to re-enter details		X	X	X	X

Table 9.

3.4 Calculate Calories Burn

Conditions and actions	**Rule 1**	**Rule 2**	**Rule 3**	**Rule 4**	**Rule 5**
Conditions					
User selected unique date and time -2	Y	Y	Y	Y	N
User selected type of exercise -2	Y	Y	N	N	-
User selected exercise duration -2	Y	N	Y	N	-
Actions					
Information saved in database	X				
Ask user to re-enter details		X	X	X	X

Table 10.

3.5 User Registration

Conditions and Actions	**Rule 1**	**Rule 2**	**Rule 3**	**Rule 4**	**Rule 5**	**Rule 6**	**Rule 7**	**Rule 8**	**Rule 9**	**Rule 10**
Conditions										
userID length -3	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Fullname length -3	< 3	< 3	≤ 100	≤ 100	≤ 100	≤ 100	≤ 100	≤ 100	> 100	> 100
Password length -3	< 7	< 7	≤ 20	≤ 20	> 20	> 20	> 20	> 20	≤ 20	≤ 20
Age -3	< 10	10 < age < 60	T	F	T	F	T	F	T	F
Gender -2	-	-	-	-	-	-	-	-	-	-
Actions										
Registered										
Ask user to re-enter details	X	X	X	X	X	X	X	X	X	X

Table 11.

Conditions and Actions	**Rule 11**	**Rule 12**	**Rule 13**	**Rule 14**	**Rule 15**	**Rule 16**	**Rule 17**	**Rule 18**	**Rule 19**	**Rule 20**	**Rule 21**
Conditions											
userID length	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Fullname length	> 100	> 100	> 100	> 100	> 100	> 100	≤ 100	≤ 100	≤ 100	≤ 100	≤ 100
Password length	≤ 20	≤ 20	> 20	> 20	> 20	> 20	≤ 20	≤ 20	≤ 20	≤ 20	> 20
Age	T	F	T	F	T	F	T	F	T	F	T
Gender	-	-	-	-	-	-	-	-	-	-	-
Actions											
Registered											
Ask user to re-enter details	X	X	X	X	X	X	X	X	X	X	X

Table 12.

Conditions and Actions	**Rule 22**	**Rule 23**	**Rule 24**	**Rule 25**	**Rule 26**	**Rule 27**	**Rule 28**	**Rule 29**	**Rule 30**	**Rule 31**	**Rule 32**
Conditions											
userID length	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	> 20
Fullname length	≤ 100	≤ 100	≤ 100	> 100	> 100	> 100	> 100	> 100	> 100	> 100	> 100
Password length	> 20	> 20	> 20	≤ 20	≤ 20	≤ 20	≤ 20	> 20	> 20	> 20	> 20
Age	F	T	F	T	F	T	F	T	F	T	F
Gender	-	-	-	-	-	-	-	-	-	-	-
Actions											
Registered											
Ask user to re-enter details	X	X	X	X	X	X	X	X	X	X	X

Table 13.

Conditions and Actions	Rule 33	Rule 34	Rule 35	Rule 36	Rule 37	Rule 38	Rule 39	Rule 40	Rule 41	Rule 42	Rule 43
Conditions											
userID length	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	> 20
Fullname length	≤ 100	≤ 100	≤ 100	> 100	> 100	> 100	> 100	> 100	> 100	> 100	> 100
Password length	> 20	> 20	> 20	≤ 20	≤ 20	≤ 20	≤ 20	> 20	> 20	> 20	> 20
Age	F	T	F	T	F	T	F	T	F	T	F
Gender	-	-	-	-	-	-	-	-	-	-	-
Actions											
Registered											
Ask user to re-enter details	X	X	X	X	X	X	X	X	X	X	X

Table 14.

Conditions and Actions	**Rule 44**	**Rule 45**	**Rule 46**	**Rule 47**	**Rule 48**	**Rule 49**	**Rule 50**	**Rule 51**	**Rule 52**	**Rule 53**	**Rule 54**
Conditions											
userID length	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	> 20
Fullname length	≤ 100	≤ 100	≤ 100	> 100	> 100	> 100	> 100	> 100	> 100	> 100	> 100
Password length	> 20	> 20	> 20	≤ 20	≤ 20	≤ 20	≤ 20	> 20	> 20	> 20	> 20
Age	F	T	F	T	F	T	F	T	F	T	F
Gender	-	-	-	-	-	-	-	-	-	-	-
Actions											
Registered											
Ask user to re-enter details	X	X	X	X	X	X	X	X	X	X	X

Table 15.

Conditions and Actions	Rule 55	Rule 56	Rule 57	Rule 58	Rule 59	Rule 60	Rule 61	Rule 62	Rule 63	Rule 64	Rule 65
Conditions											
userID length	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	> 20
Fullname length	≤ 100	≤ 100	≤ 100	> 100	> 100	> 100	> 100	> 100	> 100	> 100	> 100
Password length	> 20	> 20	> 20	≤ 20	≤ 20	≤ 20	≤ 20	> 20	> 20	> 20	> 20
Age	F	T	F	T	F	T	F	T	F	T	F
Gender	-	-	-	-	-	-	-	-	-	-	-
Actions											
Registered											
Ask user to re-enter details	X	X	X	X	X	X	X	X	X	X	X

Table 16.

Conditions and Actions	Rule 66	Rule 67	Rule 68	Rule 69	Rule 70	Rule 71	Rule 72	Rule 73	Rule 74	Rule 75	Rule 76
Conditions											
userID length	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	> 20
Fullname length	≤ 100	≤ 100	≤ 100	> 100	> 100	> 100	> 100	> 100	> 100	> 100	> 100
Password length	> 20	> 20	> 20	≤ 20	≤ 20	≤ 20	≤ 20	> 20	> 20	> 20	> 20
Age	F	T	F	T	F	T	F	T	F	T	F
Gender	-	-	-	-	-	-	-	-	-	-	-
Actions											
Registered											
Ask user to re-enter details	X	X	X	X	X	X	X	X	X	X	X

Table 17.

Conditions and Actions	**Rule 77**	**Rule 78**	**Rule 79**	**Rule 80**	**Rule 81**	**Rule 82**	**Rule 83**	**Rule 83**	**Rule 84**	**Rule 85**	**Rule 86**
Conditions											
userID length	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	> 20
Fullname length	≤ 100	≤ 100	≤ 100	> 100	> 100	> 100	> 100	> 100	> 100	> 100	> 100
Password length	> 20	> 20	> 20	≤ 20	≤ 20	≤ 20	≤ 20	> 20	> 20	> 20	> 20
Age	F	T	F	T	F	T	F	T	F	T	F
Gender	-	-	-	-	-	-	-	-	-	-	-
Actions											
Registered											
Ask user to re-enter details	X	X	X	X	X	X	X	X	X	X	X

Table 18.

TAB 2

TEST PLAN

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Test Plan

KatoDiet System (KDS)
Independence Verification and Validation

Version: 1.0.0
Date: 03/07/ 2022

Document Control

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Document Name	KatoDiet System Test Plan
Reference Number	KDS_TP
Version	1.0.0
Project Code	KDS
Status	In-use
Date Released	03/07/2022

Name	Position	Signature
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Reviewed By: Dr Salmi Baharom	Quality Assurance Team KatoDiet Testing Company	
Approved By: Dr Salmi Baharom	Operation Manager KatoDiet Testing Company	
Approved By: Dr Salmi Baharom	Project Manager KatoDiet	

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1.0 Introduction

1.1 Purpose

This test plan support the following objectives:

I. To detail the activities required to prepare for and conduct the system test.
II. To communicate to all responsible parties the tasks that they are to perform and the schedule to be followed in performing the tasks.
III. To define the sources of the information used to prepare the plan.
IV. To define the test tools and environment needed to conduct the system test

1.2 Scope

The scope of testing only covers black box-functional testing for features developed in KDS, from F004 to F006. This test plan only covers system level test, excluding unit test, static test, integration test, acceptance test, regression test, confirmation test and as well as other type of test not mentioned in this Test Plan. It would focus on meeting the requirement of the system and making sure that the system is fit for purpose.

1.3 References

The following IEEE standards have been referenced in preparation of this document:

I. IEEE 829-1998 Standard for Software and System Test Documentation
II. IEEE 829-2008 Standard for Software and System Test Documentation

The following documents provide the test basis for this test design:

I. KDS Software Requirements Specifications (KDS_SRS_1.0)
II. KDS System Design Specifications (KDS_SDS_1.0)

2.0 Details of Test Plan

2.1 Test items

The following documents will provide the basis for defining correct operation:

I. KDS System Requirement Specifications 1.0 (SRS)
II. KDS Software Design Specifications 1.0 (SDS)

The test items include all system features in KDS, as described in Section 2.2 below.

2.2 Test Traceability Matrix

The following table contains the functions in KDS and its traceability

Function ID	Risk Level	Functions	Source of Function
F001	High	Register	SRS
F002	High	Logout	SRS
F003	High	System verification	SRS
F004	High	Calories Intake Calculator	SRS
F005	High	Calories Burn Calculator	SRS
F006	High	BMI Calculator	SRS
F007	High	Display Record	SRS
F008	High	Delete Menu	SRS
F009	High	Edit Record	SRS

Table 1.

2.3 Features To Be Tested

The following table contains the features to be tested on KDS Software Requirements (SRS). Listed together are the function id and its corresponding function and estimated risk level.

Function ID	Functions	Risk Level
F004	Calories Intake Calculator	High
F005	Calories Burn Calculator	High
F006	BMI Calculator	High

Table 2.

2.4 Features Not To Be Tested

Aside from the features listed in Section 2.2, other aspects of the system are not covered in this test plan. This includes:

I. Operation Procedure

This test plan is for the system level test, operation procedure is not covered here.

II. Network Security

This test plan is designed for functional test, security is not covered here.

2.5 Approach

The test on KatoDiet System is a system level functional test that focusses only on the functional part of the system. Testing will be using risk-based strategy.

This test will also be a black-box test where cases are derived using black-box testing such as:

I. Equivalence partitioning
II. Boundary Value Analysis
III. Decision value analysis
IV. Control Structure Testing

Testing will be executed in 2 iterations. First iteration is testing functionality of Session Verification features and second iteration will be testing all other features (except for Session Verification feature) as defined in Feature To Be Tested section. Dedicated testing environment will be used, as defined in section 3.2.

Any defect found will be fixed in next release version.

2.6 Item Pass/Fail Criteria

The system must satisfy the following criteria in order to pass:

I. All test cases must be passed.
II. 0% calculation error in any function involving monetary transaction
III. No deadlock during operation.

Other than that, all test items must fulfil its requirement as stated in SRS.

2.7 Suspension Criteria and Resumption Requirements

Suspension Criteria:

In case where a Java-enabled environment is not available, all lets will be suspended.

Resumption Requirement:

Java-enabled environment is prepared.

2.8 Test Deliverables

The following documents will be generated by the system test group and will be delivered during the system testing.

Test documentation:

I. Test plan
II. Test Design Specification
III. Test Case Specification
IV. Test Procedure Specification
V. Test Logs
VI. Test Incident Reports
VII. Test Summary Report

2.9 Entry Criteria

The following items are needed before the testing can begin:

I. Requirements documents for KatoDiet System 1.1
II. Software Under Test: KatoDiet System 1.1

2.10 Exit Criteria

The following items are needed before the testing can end:

I. All Test Deliverables in Section 2.8 Test Deliverables have been delivered to client.
II. Test execution has been completed.
III. Open defect at the end of final iteration shall be:
    - Zero fatal defect,
    - Zero major defect
    - <= three minor defects

3.0 Test Management

This section describes the test activities and tasks for each specified level and the progression of test of KatoDiet System (KDS). It is here to identify the infrastructure, responsibilities and authority, organization interfaces, resources, training, schedules, and risk(s) of this test.

3.1 Planned Activities and Task

The following table shows the set of tasks necessary to prepare for and perform testing for KDS. It was identify dependencies of other tasks and significant constraint such as test item availability, testing resources availability and deadlines.

No.	Task	Activities	Target Date
1.	Test Planning and control	I. Define test project scope and objectives II. Requirement view III. Identified risks, staffing and scheduling IV. Documenting test plan	04/04/2022

		V. Technical review VI. Submission and approval of test plan	
2.	Test Analysis and Design	I. Analyze product II. Develop test design specification III. Prepare test case specification	13/04/2022
3.	Test Environment	I. Setup KDS II. Identify and acquired test data	07/05/2022
4.	Test implementation and Execution	I. Prepare test procedure specification II. Perform functional test III. Record test result IV. Analyze test result	20/06/2022
5.	Documenting Test Summary Report	I. Summarize test result	26/06/2022
6.	Documenting Test Closure	I. Collecting test process data from completed activities to consolidate experience, testware, facts and numbers.	30/06/2022
7.	Test Complete	I. Delivery of product to client	03/07/2022

Table 3.

3.2 Environment & Infrastructure

This section describes the hardware, software and operating system that require for this system testing.

3.2.1 Hardware

The following table shows the hardware requirements of KDS that will be used to install KDS.

Hardware Name	OMEN Laptop 15-ek1016TX
Manufacturer	Hewlett-Packard (HP)
Keyboard	Full-size 4 Zone RGB Shadow Black Keyboard with Numeric Keypad
Card Processor	Intel(R) Core(TM) i7-8750H CPU @ 2.20GHz 2.21 GHz

Table 4.

3.2.2 Software

The following tables shows the software requirements of KDS that will be used to install KDS.

Application Name	KatoDiet System (KDS)
Version	1.0
Type of file	Executable Jar File (.jar)
Size of Application	64.8KB
Size on Disk	67.2KB
Operating System	Windows CE 5.0, Windows CE 6.0

Table 5.

3.2.3 Publications

The following documents are required to support system testing:

i. KatoDiet System Requirements Specifications 1.0 (SRS)

ii. KatoDiet Software Design Specifications 1.0 (SDD)

3.3 Responsibilities and Authority

This section will identify the individuals of groups responsible for managing, designing, preparing, executing, witnessing, and checking results of this testing. In addition, it will identify the persons responsible for providing the test items in Section 2.0 and environmental needs identified in Section 3.2.

Name	Role	Responsibilities
Mr Ahmad Rusyaidi	Test Manager	● Negotiating the ongoing purpose and deliverables of the test effort. ● Ensuring the appropriate planning and management of the test resources. ● Assessing the progress and effectiveness of the test effort. ● Advocating the appropriate level of quality by the resolution of important Defects. ● Advocating an appropriate level of testability focus in the software development process.
Mr Muhamad Zaimi	Test Lead	● Deploying and managing the appropriate testing framework to meet the testing mandate. ● Implementing and evolving appropriate measurement and metrics. ○ To be applied against the Product under

		test. ○ To be applied against the Testing Team ● Planning, deploying and managing the testing effort for any given engagement / release. ● Managing and growing testing assets required for meeting the testing mandate. ○ Team Members ○ Testing Tools ○ Testing Process ● Retaining skilled testing personnel.
Ms Julia Nurfadhilah	Test Analyst	● Identifying the target Test items to be evaluated by the test effort. ● Defining the appropriate tests required and any associated Test Data. ● Gathering and managing the Test Data. ● Evaluating the outcome of each test cycle.
Ms Noor Syahirah	Tester	● Test Requirement Analysis. ● Test case development / Updating. ● Test Data preparation.
Mr Abdul Qayyum	Tester	● Test Execution and Results logging. ● Defect Analysis & Reporting. ● Re- tests for Fixes.

Table 6.

3.4 Resources and Allocation

This section will describe any additional required resources that are not already documented by other parts of the plan. This is including internal or external resources.

3.4.1 External Resources

There are no external resources required for in this testing.

3.4.2 Internal Resources

The internal Quality Assurance Team of KatoDiet Testing Company shall be responsible for reviewing the test deliverables for adherence to compliance.

3.5 Training

All personnel that involve in this testing are require training on KDS according to their responsibility.

I. Training on the operation flow of KDS.
II. Training on the business role that related to bank transaction services.

3.6 Schedules, Estimates and Costs

This section will describe the project schedule and task milestones. The schedule will include estimated time that required for each testing task. Cost is not included for this testing.

Task	Milestone	Days	Duration
Test Planning and Control	Submission of Test Plan for sign-off	6 days	29/03/2022 - 04/04/2022
Test Analysis and Design	Submission of Test Design Specification, Test Case Specification and Test Procedure Specification	9 days	05/04/2022 - 13/04/2022
Test Environment	Setup of Test Environment	24 days	14/04/2022 - 07/05/2022
Test Implementation and Execution	Execution of System Test of KatoDiet	44 days	08/05/2022 - 20/06/2022
Documenting Test Summary Report	Submission of Test Summary Report	6 days	21/06/2022 - 26/06/2022
Documenting Test Closure	Submission of Test Closure	4 days	27/06/2022 - 30/06/2022
Test Complete	Delivery of product to client.	3 days	01/07/2022 - 03/07/2022

Table 7.

3.7 Risk & Contingency

This section identified the risk issues that may impact successful completion of the system testing activities of KDS. The potential likelihood, impact and mitigation plan was described in the following tables.

Rating for Likelihood for Each Risk	
1	Rated as Low
2	Rated as Medium
3	Rated as High
4	Rated as Extreme

Table 8.

Rating for Likelihood for Each Risk	
1	Rated as Low
2	Rated as Medium
3	Rated as High
4	Rated as Extreme

Table 9.

Function ID	Risk Description	Likelihood	Impact	Risk Exposure	Risk Treatment Plan	People Responsible	Cost
F004	Incorrect output calculation	3	3	9	Perform function test and use at least 3 technique	Test Team	-
F005	Incorrect output calculation	3	3	9	Perform function test and use at least 3 technique	Test Team	-
F006	Incorrect output calculation	3	3	9	Perform function test and use at least 3 technique	Test Team	-

Table 10.

4.0 General

4.1 Metrics

The following metrics will be collected and used to monitor the progress.

Metric List	Metric Description	Goals
Actual duration vs. plan (variance)	Metric to monitor the project progress compared to the plan	Allow 10% delay
Percentage of test cases run during test execution	Metric to monitor total number of test cases executed	100%
Percentage of test cases passed against total of test cases executed	Metric to monitor total number of test cases executed with passed criteria	All high-risk test cases passed
Percentage of baselines requirement covered against total test cases	Metric to monitor total number of baseline requirement coverage	100%

Table 11.

4.2 Glossary

Term	Definition
SDS	Software Design Specification
SRS	Software Requirement Specification
KDS	KatoDiet System
TP	Test Plan

Table 12.

4.3 Incident Classification

Impact
Mission Critical: Application will not function or system fails Major: Severe problems but possible to work around Minor: Does not impact the functionality or usability of the process is not according to requirements/design specifications.
Priority
Immediate: Must be fixed as soon as possible Delayed: System is unstable but incident must be fixed prior to next level of test or shipment Deferred: Defect can be left in if necessary due to time or costs

Table 13.

TAB 3

TEST DESIGN SPECIFICATION

Page i to iii
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Test Design Specification

KatoDiet System (KDS)
Independence Verification and Validation

Version: 1.0.0
Date: 03/07/ 2022

Document Control

.`

Document Name	KatoDiet System Test Design Specification
Reference Number	KDS_TDS
Version	1.0.0
Project Code	KDS
Status	In-use
Date Released	03/07/2022

Name	Position	Signature
Prepared By: Mr Ahmad Rusyaidi	Test Manager KatoDiet Testing Company	
Reviewed By: Dr Salmi Baharom	Quality Assurance Team KatoDiet Testing Company	
Approved By: Dr Salmi Baharom	Operation Manager KatoDiet Testing Company	
Approved By: Dr Salmi Baharom	Project Manager KatoDiet	

Version History

Version	Release Date	Section	Amendment
1.0.0	03/07/2022	All	Original document

Distribution List

Version	Release Date	Controlled Copy No	Recipient Name	Department	Issue Date	Return Date
1.0.0	03/07/2022	01	Dr Salmi Baharom	Department of Software Engineering		

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1.0 Introduction

1.1 Purpose

This test design specification support the following objectives:

I. To identify the test items covered.
II. To further refine the test approach from Test Plan.
III. To define the sources of the information used to prepare the plan.
IV. To identify the general cases of test to be executed.

1.2 Scope

This test design specification covers Session Verification developed in KDS.

1.3 References

The following IEEE standards have been referenced in preparation of this document:

I. IEEE 829-1998 Standard for Software and System Test Documentation
II. IEEE 829-2008 Standard for Software and System Test Documentation

The following documents provide the test basis for this test design:

I. KDS Software Requirements Specifications (KDS_SRS_1.0)
II. KDS System Design Specifications (KDS_SDS_1.0)

2.0 Test Design

2.1 Features to be Tested

The following table contains the features to be tested based on KDS Software Requirement Specifications (SRS) for the iteration. Listed together are the function ID and its corresponding functions and estimated risk level.

Function ID	Functions	Risk Level
F004	Calories Intake Calculator	High
F005	Calories Burn Calculator	High
F006	BMI Calculator	High

Table 1.

2.2 Approach Refinements

As discussed in Test Plan (KDS_TP_1.0.0), test cases for KDS will be designed using four techniques which are covered in this section. Techniques are applied based on suitability of techniques according to nature of features.

The techniques that will be applied are as follows:

I. Equivalence Partitioning
II. Boundary Value Analysis
III. Decision table Testing
IV. Control Structure Testing

Nature of feature as below:

- F004 Calories Intake Calculator - Total calorie intake is saved to database
- F005 Calories Burn Calculator - Total calorie burn is saved to database
- F006 BMI Calculator - BMI is saved to database

2.2.1 Testing Techniques

Five techniques are identified for designing test for all features, including:

I. Equivalence Partitioning
II. Boundary Value Analysis
III. Decision Table Testing
IV. Control Structure

2.2.1.1 Equivalence Partitioning

2.2.1.1.1 Calories Intake

2.2.1.1.1.1 Food Category

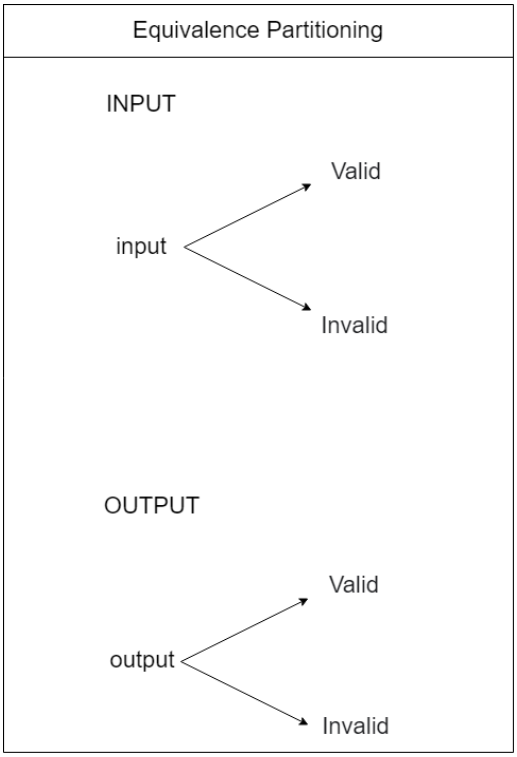

Figure 1.

Test Condition ID	Test Condition	Test Coverage ID	Test Coverage	Example of Test Data
TCON-01-001	Valid ∈ { Carbohydrate, Protein, Fat, Fruit and Vegetable }	TCOV-01-001	Valid ∈ { Carbohydrate, Protein, Fat, Fruit and Vegetable }	Carbohydrate
TCON-01-002	Invalid ∉ { Carbohydrate, Protein, Fat, Fruit and Vegetable }	TCOV-01-002	Invalid ∉ { Carbohydrate,Protein, Fat, Fruit and Vegetable }	Mineral

Table 2.

2.2.1.1.1.2 Food Name

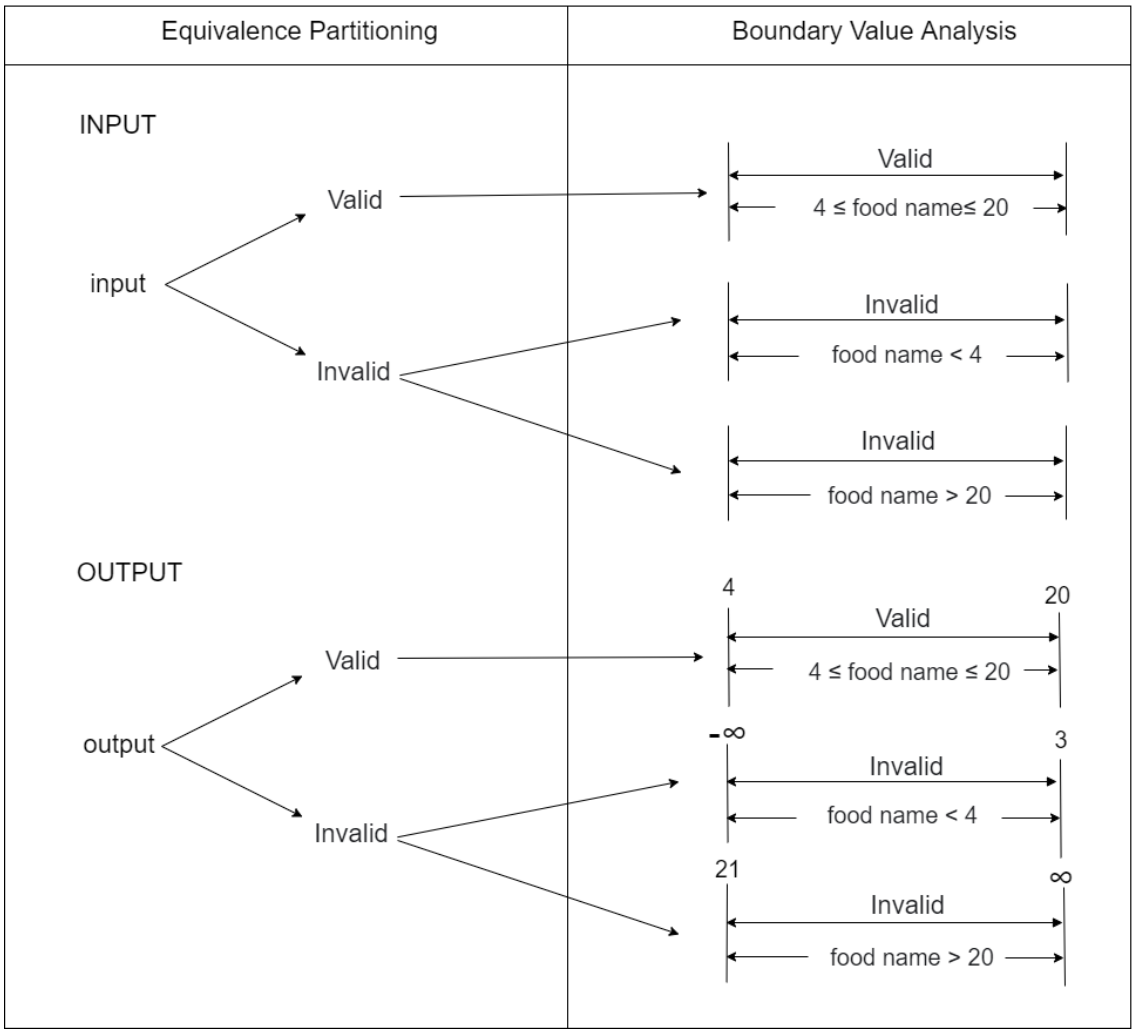

Figure 2.

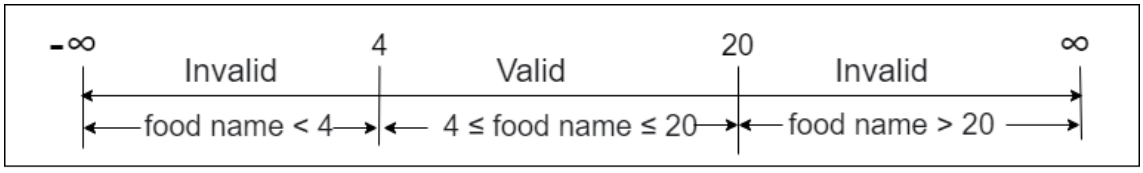

Figure 3.

Test Condition ID	Test Condition	Test Coverage ID	Test Coverage	Example of Test Data
TCON-01-003	4 ≤ food name ≤ 20	TCOV-01-003	4 ≤ food name ≤ 20	rice
TCON-01-004	Food name < 4	TCOV-01-004	Food name < 4	nut
TCON-01-005	Food name > 20	TCOV-01-005	Food name > 20	20-character

Table 3.

2.2.1.1.2 Calories Burn

2.2.1.1.2.1 Exercise Type

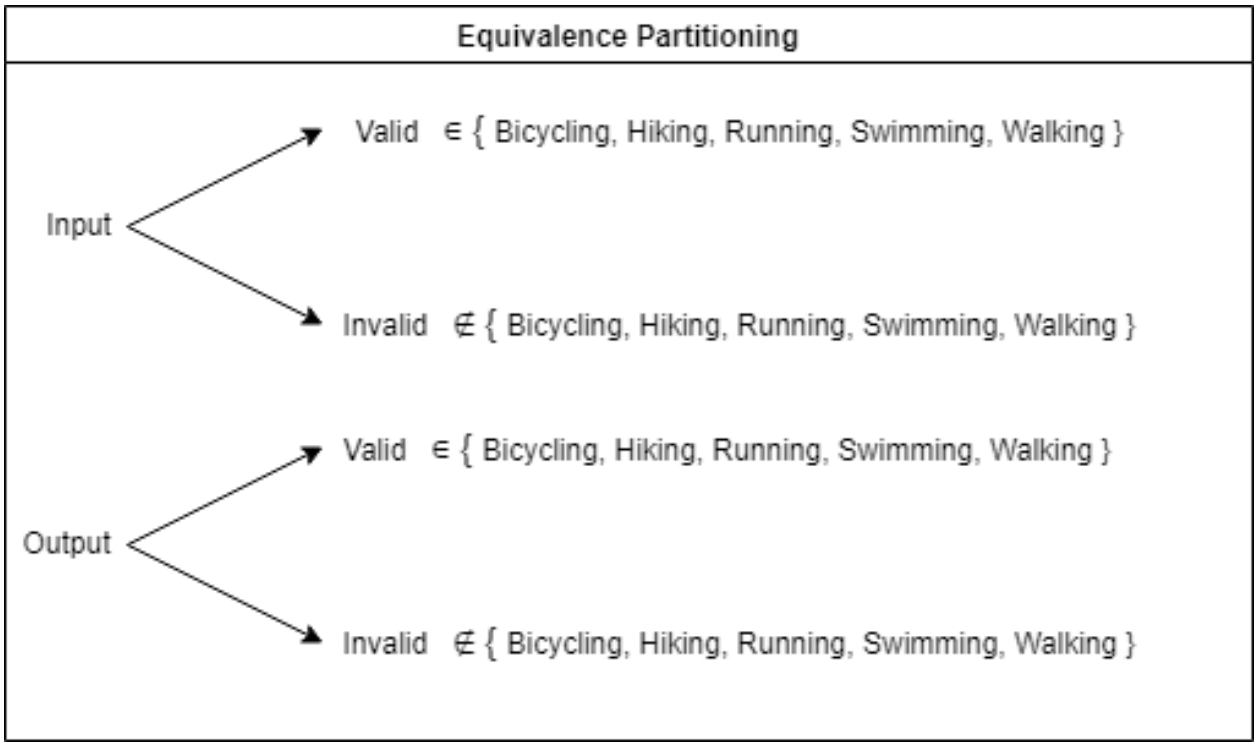

Figure 4.

Test Condition ID	Test Condition	Test Coverage ID	Test Coverage	Example of Test Data
TCON-02-001	Valid ∈ { Bicycling, Hiking, Running, Swimming, Walking }	TCOV-02-001	Valid ∈ { Bicycling, Hiking, Running, Swimming, Walking }	Hiking
TCON-02-002	Invalid ∉ { Bicycling, Hiking, Running, Swimming, Walking }	TCOV-02-002	Invalid ∉ { Bicycling, Hiking, Running, Swimming, Walking }	Football

Table 4.

2.2.1.1.2.2 Exercise Duration

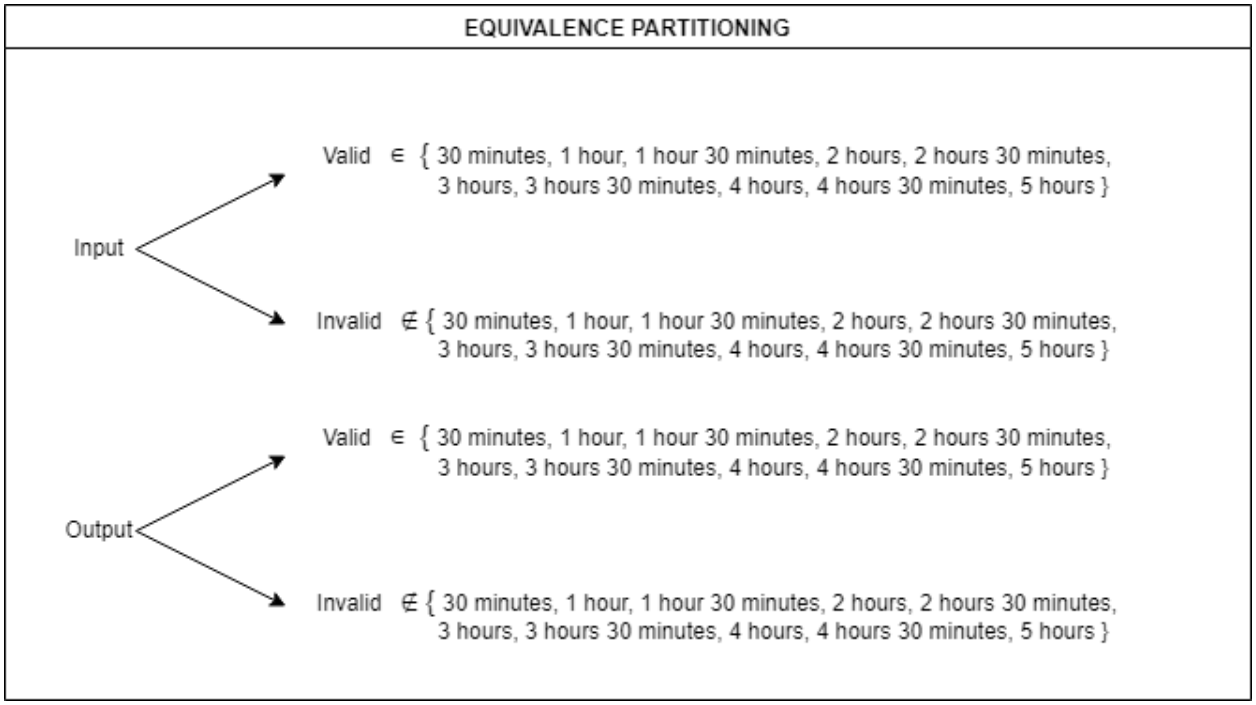

Figure 5.

Test Condition ID	Test Condition	Test Coverage ID	Test Coverage	Example of Test Data
TCON-02-003	Valid ∈ { 30 minutes, 1 hour, 1 hour 30 minutes, 2 hours, 2 hours 30 minutes, 3 hours, 3 hours 30 minutes, 4 hours, 4 hours 30 minutes, 5 hours }	TCOV-02-003	Valid ∈ { 30 minutes, 1 hour, 1 hour 30 minutes, 2 hours, 2 hours 30 minutes, 3 hours, 3 hours 30 minutes, 4 hours, 4 hours 30 minutes, 5 hours }	2 hours
TCON-02-004	Invalid ∉ { 30 minutes, 1 hour, 1 hour 30 minutes, 2 hours, 2 hours 30 minutes, 3 hours, 3 hours 30 minutes, 4 hours, 4 hours 30 minutes, 5 hours }	TCOV-02-004	Invalid ∉ { 30 minutes, 1 hour, 1 hour 30 minutes, 2 hours, 2 hours 30 minutes, 3 hours, 3 hours 30 minutes, 4 hours, 4 hours 30 minutes, 5 hours }	10 hours

Table 5.

2.2.1.1.3 Calculate BMI

2.2.1.1.3.1 Height

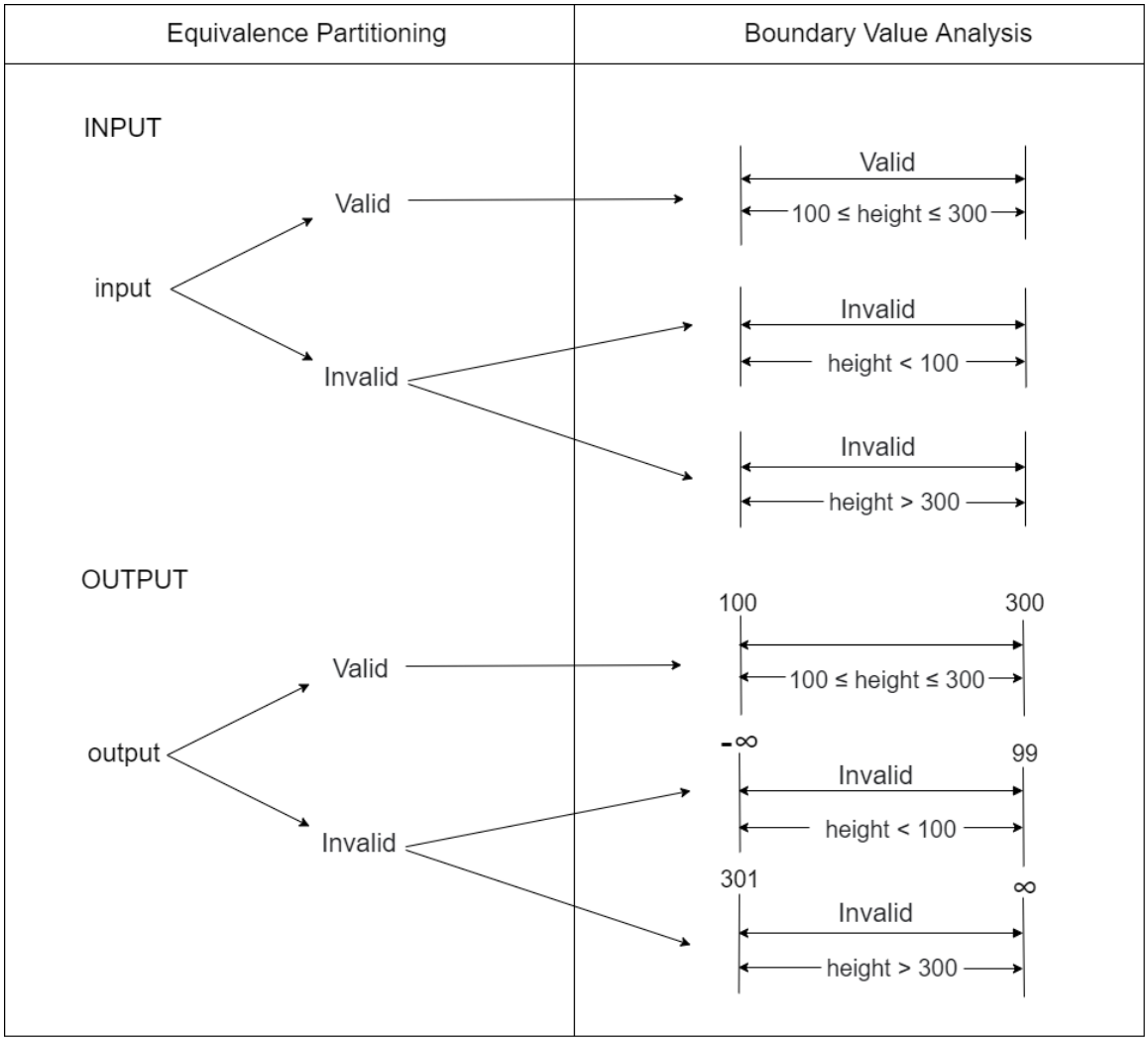

Figure 6.

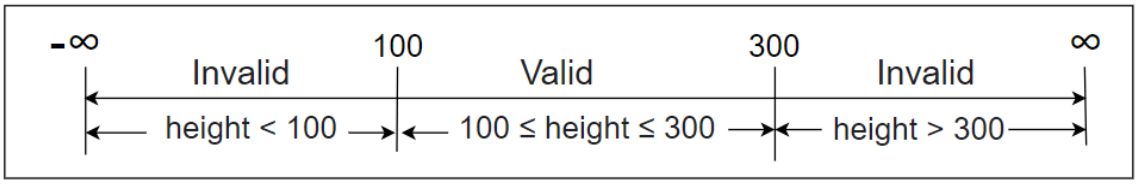

Figure 7.

Test Condition ID	Test Condition	Test Coverage ID	Test Coverage	Example of Test Data
TCON-03-001	100 ≤ height ≤ 300	TCOV-03-001	100 ≤ height ≤ 300 (valid)	220
TCON-03-002	height < 100	TCOV-03-002	height < 100 (invalid)	56
TCON-03-003	height > 300	TCOV-03-003	height > 300 (invalid)	420

Table 6.

2.2.1.1.3.2 Weight

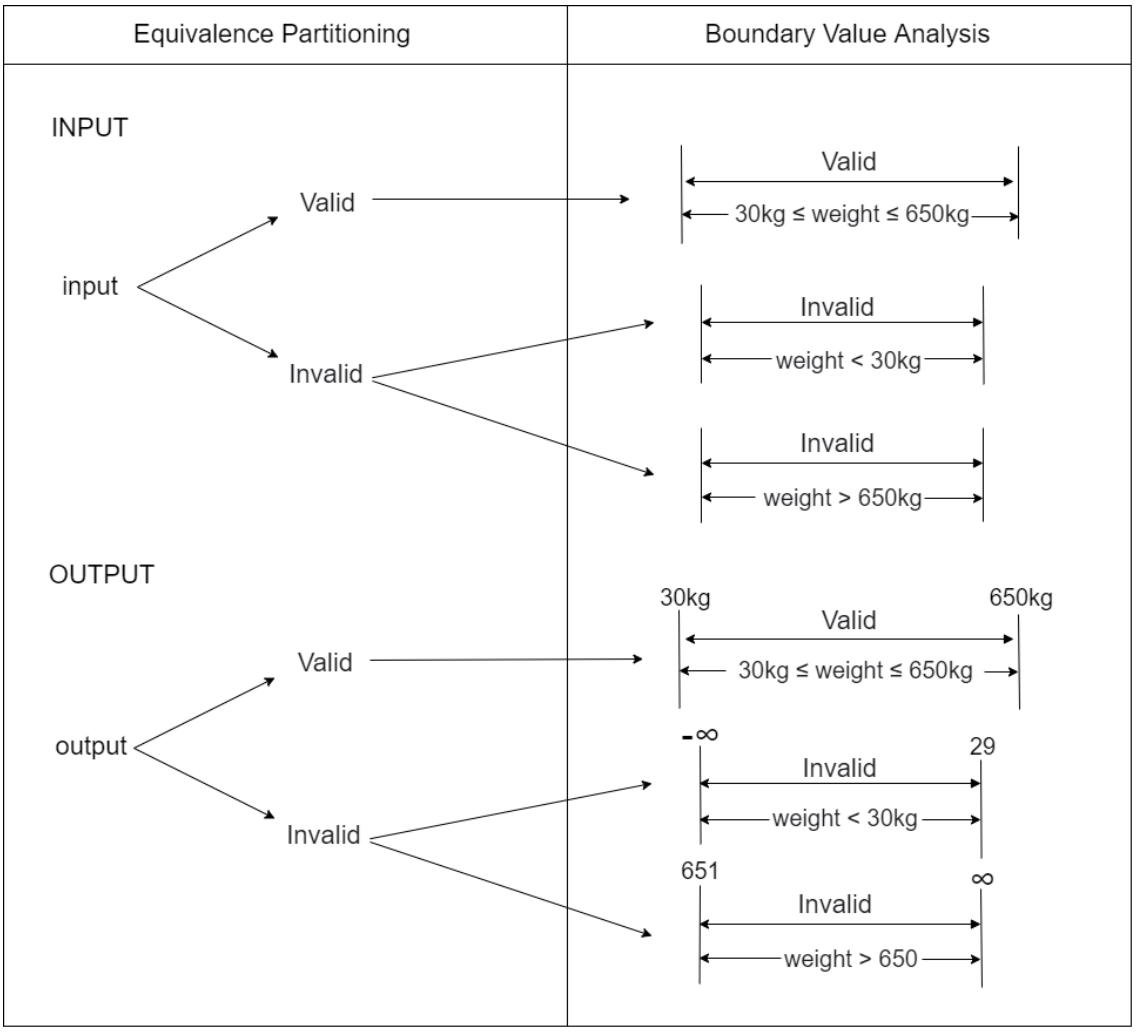

Figure 8.

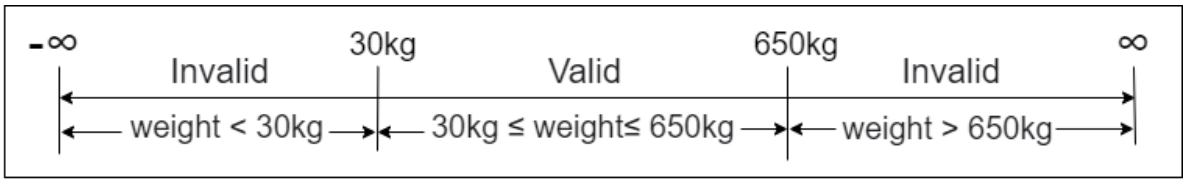

Figure 9.

Test Condition ID	Test Condition	Test Coverage ID	Test Coverage	Example of Test Data
TCON-03-004	30kg ≤ weight ≤ 650kg	TCOV-03-004	30kg ≤ weight ≤ 650kg (valid)	310
TCON-03-005	weight < 30kg	TCOV-03-005	weight < 30kg (invalid)	15
TCON-03-006	weight > 650kg	TCOV-03-006	weight > 650kg (invalid)	1000

Table 7.

2.2.1.2 Boundary Value Analysis

2.2.1.2.1 Calories Intake

2.2.1.2.1.1 Food Name

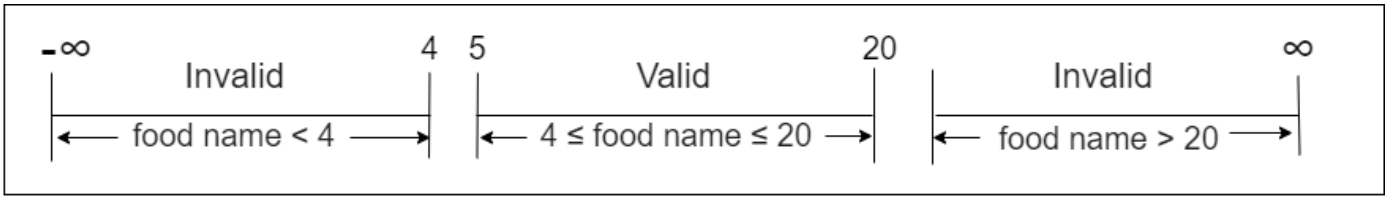

Figure 10.

Test Condition ID	Test Condition	Test Coverage ID	Test Coverage	Example of Test Data
TCON-01-006	Food name = 4	TCOV-02-006	Food name = 4 (Valid)	rice
TCON-01-007	Food name < 4	TCOV-02-007	Food name < 4 (Invalid)	nut
TCON-01-008	Food name > 4	TCOV-02-008	Food name > 4 (Valid)	Wagyu
TCON-01-009	Food name > 20	TCOV-02-009	Food name > 20 (Invalid)	21-character
TCON-01-010	Food name = 20	TCOV-02-010	Food name = 20 (Valid)	20-character
TCON-01-011	Food name < 20	TCOV-02-006	Food name < 20 (Valid)	Char kuey teow

Table 8.

2.2.1.2.2 Calculate BMI

2.2.1.2.2.1 Height

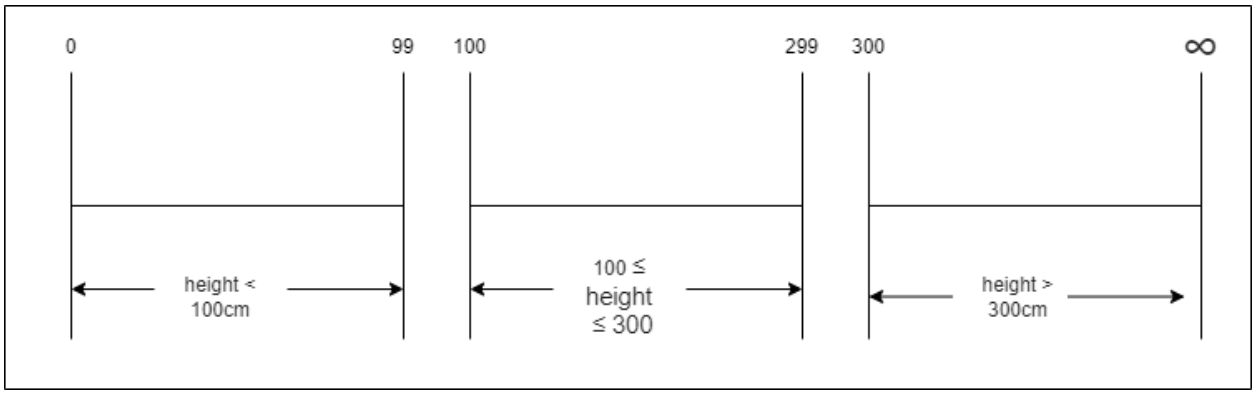

Figure 11.

Test Condition ID	**Test Condition**	**Test Coverage ID**	**Test Coverage**	**Example of Test Data**
TCON-03-007	height = 99	TCOV-03-007	height = 99 (Invalid)	99
TCON-03-008	height = 100	TCOV-03-008	height = 100 (Valid)	100
TCON-03-009	height = 101	TCOV-03-009	height = 31 (Valid)	101
TCON-03-010	height = 299	TCOV-03-010	height = 299 (Valid)	299
TCON-03-011	height = 300	TCOV-03-011	height = 300 (Valid)	300
TCON-03-012	height = 301	TCOV-03-012	height = 301 (Invalid)	301

Table 9.

2.2.1.2.2.2 Weight

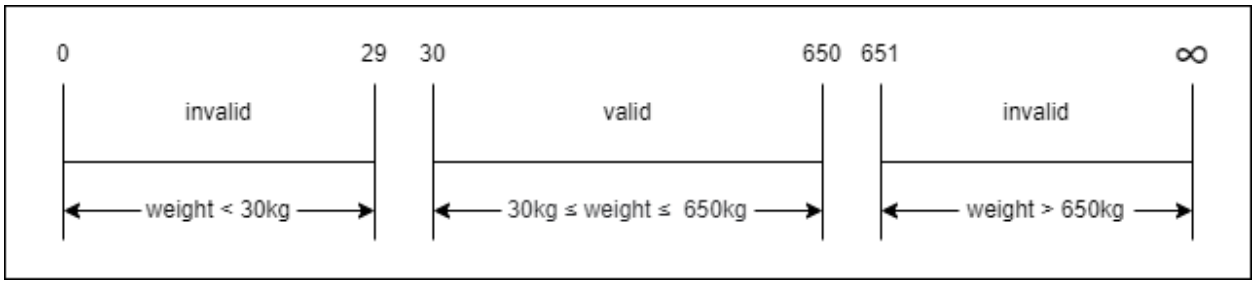

Figure 12.

Test Condition ID	**Test Condition**	**Test Coverage ID**	**Test Coverage**	**Example of Test Data**
TCON-03-013	Weight = 29	TCOV-03-013	Weight = 29 (Invalid)	29
TCON-03-014	Weight = 30	TCOV-03-014	Weight = 30 (Valid)	30
TCON-03-015	Weight = 31	TCOV-03-015	Weight = 31 (Valid)	31
TCON-03-016	Weight = 649	TCOV-03-016	Weight = 649 (Valid)	649
TCON-03-017	Weight = 650	TCOV-03-017	Weight = 650 (Valid)	650
TCON-03-018	Weight = 651	TCOV-03-018	Weight = 651 (Invalid)	651

Table 10.

2.2.1.3 Decision Table Testing

2.2.1.3.1 Calories Intake

Test Condition ID	Test Condition
TCON-01-012	User selected unique date
TCON-01-013	User selected unique time
TCON-01-014	User select food category
TCON-01-015	User insert food name
TCON-01-016	Information saved in database
TCON-01-017	Ask user to re-enter details

Table 11.

Conditions and actions	TCOV-01-012	TCOV-01-013	TCOV-01-014	TCOV-01-015	TCOV-02-016
Conditions					
User selected date	Y	Y	Y	Y	N
User selected time	Y	Y	Y	N	-
User selected food category	Y	Y	N	-	-
User inserted food name	Y	N	-	-	-
Actions					
Information saved in database	X				
Ask user to re-enter details		X	X	X	X

Table 12.

2.2.1.3.2 Calories Burn

Test Condition ID	Test Condition
TCON-02-005	User selected date
TCON-02-006	User selected time
TCON-02-007	User selected type of exercise
TCON-02-008	User selected exercise duration
TCON-02-009	Information saved in database
TCON-02-010	Ask user to re-enter details

Table 13.

Conditions and actions	**TCOV-02-005**	**TCOV-02-006**	**TCOV-02-007**	**TCOV-02-008**	**TCOV-02-009**
Conditions					
User selected date	Y	Y	Y	Y	N
User selected time	Y	Y	Y	N	-
User selected type of exercise	Y	Y	N	-	-
User selected exercise duration	Y	N	-	-	-
Actions					
Information saved in database	X				
Ask user to re-enter details		X	X	X	X

Table 14.

2.2.1.3.3 Calculate BMI

Test Condition ID	Test Condition
TCON-03-019	Insert Date
TCON-03-020	Insert Height
TCON-03-021	Insert Weight
TCON-03-022	Information saved in database
TCON-03-023	Ask user to re-enter details
TCON-03-024	No action

Table 15.

Conditions and Actions	**TCOV-01-019**	**TCOV-01-020**	**TCOV-01-021**	**TCOV-01-022**	**TCOV-01-023**	**TCOV-01-024**
Conditions						
Insert Date	Y	Y	Y	Y	Y	N
Insert Height	< 100	101 ≤ Input ≤ 300	101 ≤ Input ≤ 300	101 ≤ Input ≤ 300	> 300	-
Insert Weight	-	< 30	31 ≤ Input ≤ 651	> 650	-	-
Actions						
Information saved in database			X			
Ask user to re-enter details	X	X		X	X	
No action taken						X

Table 16.

2.2.1.4 Control Structure Testing

2.2.1.4.1 Calculate Calories Intake

2.2.1.4.1.1 Checking Food Category

Test Condition ID	Test Condition
TCON-01-017	Food category==Carbohydrate
TCON-01-018	Food category==Protein
TCON-01-019	Food category==Fat
TCON-01-020	Food category==Fruit and Vegetables
TCON-01-021	Food category==none

Table 17.

Test Condition ID	**Test Condition**	**Test Coverage ID**	**Test Coverage**	**Example of Test Data**
TCON-01-017	Food category == Carbohydrate	TCOV-01-017	Food category == Carbohydrate	Carbohydrate
TCON-01-018	Food category == Protein	TCOV-01-018	Food category == Protein	Protein
TCON-01-019	Food category == Fat	TCOV-01-019	Food category == Fat	Fat
TCON-01-020	Food category == Fruit and Vegetables	TCOV-01-020	Food category == Fruit and Vegetables	Fruit and Vegetables
TCON-01-021	Food category == none	TCOV-01-021	Food category == none	Mineral

Table 18.

2.2.1.4.1.2 Checking Food Name

Remarks: the test cases are covered in boundary-value analysis testing.

2.2.1.4.2 Calculate Calories Burn (exercise.java)

2.2.1.4.2.1 Checking Type Of Exercise

Test Condition ID	Test Condition
TCON-02-011	Exercise Type == Bicycling
TCON-02-012	Exercise Type == Hiking
TCON-02-013	Exercise Type == Running
TCON-02-014	Exercise Type == Swimming
TCON-02-015	Exercise Type == Walking

Table 19.

Test Condition ID	**Test Condition**	**Test Coverage ID**	**Test Coverage**	**Example of Test Data**
TCON-02-011	Exercise Type == Bicycling	TCOV-02-011	Exercise Type == Bicycling	Bicycling
TCON-02-012	Exercise Type == Hiking	TCOV-02-012	Exercise Type == Hiking	Hiking
TCON-02-013	Exercise Type == Running	TCOV-02-013	Exercise Type == Running	Running
TCON-02-014	Exercise Type == Swimming	TCOV-02-014	Exercise Type == Swimming	Swimming
TCON-02-015	Exercise Type == Walking	TCOV-02-015	Exercise Type == Walking	Walking

Table 20.

2.2.1.4.2.2 Checking Date Insertion

Remarks: the test cases are covered in decision table testing.

2.2.1.4.2.3 Checking Time Insertion

Remarks: the test cases are covered in decision table testing.

2.2.1.4.2.4 Checking Type Of Exercise Insertion

Remarks: the test cases are covered in decision table testing.

2.2.1.4.2.5 Checking Duration Of Exercise Insertion

Test Condition ID	Test Condition
TCON-02-016	Time == 0.5
TCON-02-017	Time == 1
TCON-02-018	Time == 1.5
TCON-02-019	Time == 2
TCON-02-020	Time == 2.5
TCON-02-021	Time == 3
TCON-02-022	Time == 3.5
TCON-02-023	Time == 4
TCON-02-024	Time == 4.5
TCON-02-025	Time == 5

Table 21.

Test Condition ID	Test Condition	Test Coverage ID	Test Coverage	Example of Test Data
TCON-02-016	Time == 0.5	TCOV-02-016	Time == 0.5	0.5
TCON-02-017	Time == 1	TCOV-02-017	Time == 1	1
TCON-02-018	Time == 1.5	TCOV-02-018	Time == 1.5	1.5
TCON-02-019	Time == 2	TCOV-02-019	Time == 2	2
TCON-02-020	Time == 2.5	TCOV-02-020	Time == 2.5	2.5
TCON-02-021	Time == 3	TCOV-02-021	Time == 3	3
TCON-02-022	Time == 3.5	TCOV-02-022	Time == 3.5	3.5
TCON-02-023	Time == 4	TCOV-02-023	Time == 4	4
TCON-02-024	Time == 4.5	TCOV-02-024	Time == 4.5	4.5
TCON-02-025	Time == 5	TCOV-02-025	Time == 5	5

Table 22.

2.3 Test Identification

2.3.1 Calculate Calories Intake

Test Case ID	**Description**	**Test Coverage ID**	**Test Condition ID**
TC-01-001	Calculate Food Intake (Valid Food Category)	TCOV-01-001	TCON-01-001
TC-01-002	Calculate Food Intake (Invalid Food Category)	TCOV-01-002	TCON-01-002
TC-01-003	Calculate Food Intake (Valid Food Name)	TCOV-01-003	TCON-01-003
TC-01-004	Calculate Food Intake (Invalid Food Name)	TCOV-01-004	TCON-01-004
TC-01-005	Calculate Food Intake (Invalid Food Name)	TCOV-01-005	TCON-01-005
TC-01-006	Calculate Food Intake (Valid Food Name)	TCOV-01-006	TCON-01-006
TC-01-007	Calculate Food Intake (Invalid Food Name)	TCOV-01-007	TCON-01-007
TC-01-008	Calculate Food Intake (Valid Food Name)	TCOV-01-008	TCON-01-008
TC-01-009	Calculate Food Intake (Invalid Food Name)	TCOV-01-009	TCON-01-009

TC-01-010	Calculate Food Intake (Valid Food Name)	TCOV-01-010	TCON-01-010
TC-01-011	Calculate Food Intake (Valid Food Name)	TCOV-01-011	TCON-01-011
TC-01-012	Calculate Food Intake (Valid Input)	TCON-01-012	TCON-01-012
TC-01-013	Calculate Food Intake (Invalid Food Name)	TCOV-01-013	TCON-01-013
TC-01-014	Calculate Food Intake (Invalid Food Category)	TCOV-01-014	TCON-01-014
TC-01-015	Calculate Food Intake (Invalid Input Time)	TCOV-01-015	TCON-01-015
TC-01-016	Calculate Food Intake (Invalid Input Date)	TCOV-01-016	TCON-01-016
TC-01-017	Calculate Food Intake (Food category==Carbohydrate)	TCOV-01-017	TCON-01-017
TC-01-018	Calculate Food Intake (Food category==Protein)	TCOV-01-018	TCON-01-018
TC-01-019	Calculate Food Intake (Food category==Fat)	TCOV-01-019	TCON-01-019
TC-01-020	Calculate Food Intake (Food category==Fruit and Vegetables)	TCOV-01-020	TCON-01-020
TC-01-021	Calculate Food Intake (Food category==none)	TCOV-01-021	TCON-01-021

Table 23.

2.3.2 Calculate Calories Burn

Test Case ID	Description	Test Coverage ID	Test Condition ID
TC-02-001	Calculate Calories Burn (Valid Exercise Type)	TCOV-02-001	TCON-02-001
TC-02-002	Calculate Calories Burn (Invalid Exercise Type)	TCOV-02-002	TCON-02-02
TC-02-003	Calculate Calories Burn (Valid Exercise Duration)	TCOV-02-003	TCON-02-003
TC-02-004	Calculate Calories Burn (Invalid Exercise Duration)	TCOV-02-004	TCON-02-004
TC-02-005	Calculate Calories Burn (Valid Input)	TCOV-02-005	TCON-02-005
TC-02-006	Calculate Calories Burn (Invalid Exercise Duration)	TCOV-02-006	TCON-02-006
TC-02-007	Calculate Calories Burn (Invalid Exercise Type)	TCOV-02-007	TCON-02-007
TC-02-008	Calculate Calories Burn (Invalid Time)	TCOV-02-008	TCON-02-008
TC-02-009	Calculate Calories Burn (Invalid Date)	TCOV-02-009	TCON-02-009
TC-02-010	Calculate Calories Burn	TCOV-02-011	TCON-02-011

	(Valid Exercise Type)		
TC-02-011	Calculate Calories Burn (Valid Exercise Type)	TCOV-02-012	TCON-02-012
TC-02-012	Calculate Calories Burn (Valid Exercise Type)	TCOV-02-013	TCON-02-013
TC-02-013	Calculate Calories Burn (Valid Exercise Type)	TCOV-02-014	TCON-02-014
TC-02-014	Calculate Calories Burn (Valid Exercise Type)	TCOV-02-015	TCON-02-015
TC-02-015	Calculate Calories Burn (Valid Exercise Duration)	TCOV-02-016	TCON-02-016
TC-02-016	Calculate Calories Burn (Valid Exercise Duration)	TCOV-02-017	TCON-02-017
TC-02-017	Calculate Calories Burn (Valid Exercise Duration)	TCOV-02-018	TCON-02-018
TC-02-018	Calculate Calories Burn (Valid Exercise Duration)	TCOV-02-019	TCON-02-019
TC-02-019	Calculate Calories Burn (Valid Exercise Duration)	TCOV-02-020	TCON-02-020
TC-02-020	Calculate Calories Burn (Valid Exercise Duration)	TCOV-02-021	TCON-02-021
TC-02-021	Calculate Calories Burn (Valid Exercise Duration)	TCOV-02-022	TCON-02-022

TC-02-022	Calculate Calories Burn (Valid Exercise Duration)	TCOV-02-023	TCON-02-023
TC-02-023	Calculate Calories Burn (Valid Exercise Duration)	TCOV-02-024	TCON-02-024
TC-02-024	Calculate Calories Burn (Valid Exercise Duration)	TCOV-02-025	TCON-02-025

Table 24.

2.3.3 Calculate BMI

Test Case ID	Description	Test Coverage ID	Test Condition ID
TC-03-001	Calculate BMI (Valid Height)	TCOV-03-001	TCON-03-001
TC-03-002	Calculate BMI (Invalid Height)	TCOV-03-002	TCON-03-002
TC-03-003	Calculate BMI (Invalid Height)	TCOV-03-003	TCON-03-003
TC-03-004	Calculate BMI (Valid Weight)	TCOV-03-004	TCON-03-004
TC-03-005	Calculate BMI (Invalid Weight)	TCOV-03-005	TCON-03-005
TC-03-006	Calculate BMI (Invalid Weight)	TCOV-03-006	TCON-03-006
TC-03-007	Calculate BMI (Invalid Height)	TCOV-03-007	TCON-03-007
TC-03-008	Calculate BMI (Valid Height)	TCOV-03-008	TCON-03-008
TC-03-009	Calculate BMI (Valid Height)	TCOV-03-009	TCON-03-009
TC-03-010	Calculate BMI (Valid Height)	TCOV-03-010	TCON-03-010

TC-03-011	Calculate BMI (Valid Height)	TCOV-03-011	TCON-03-011
TC-03-012	Calculate BMI (Invalid Height)	TCOV-03-012	TCON-03-012
TC-03-013	Calculate BMI (Invalid Weight)	TCOV-03-013	TCON-03-013
TC-03-014	Calculate BMI (Valid Weight)	TCOV-03-014	TCON-03-014
TC-03-015	Calculate BMI (Valid Weight)	TCOV-03-015	TCON-03-015
TC-03-016	Calculate BMI (Valid Weight)	TCOV-03-016	TCON-03-016
TC-03-017	Calculate BMI (Valid Weight)	TCOV-03-017	TCON-03-017
TC-03-018	Calculate BMI (Invalid Weight)	TCOV-03-018	TCON-03-018
TC-03-019	Calculate BMI (Invalid Height)	TCOV-03-019	TCON-03-019
TC-03-020	Calculate BMI (Invalid Weight)	TCOV-03-020	TCON-03-020
TC-03-021	Calculate BMI (Valid Height and Weight)	TCOV-03-021	TCON-03-021

TC-03-022	Calculate BMI (Invalid Weight)	TCOV-03-022	TCON-03-022
TC-03-023	Calculate BMI (Invalid Height)	TCOV-03-023	TCON-03-023
TC-03-024	Calculate BMI (Invalid Height and Weight)	TCOV-03-024	TCON-03-024
TC-03-025	Calculate BMI (Valid Weight)	TCOV-03-025	TCON-03-025
TC-03-026	Calculate BMI (Valid Weight)	TCOV-03-026	TCON-03-026
TC-03-027	Calculate BMI (Invalid Weight)	TCOV-03-027	TCON-03-027
TC-03-028	Calculate BMI (Valid Height)	TCOV-03-028	TCON-03-028
TC-03-029	Calculate BMI (Valid Height)	TCOV-03-029	TCON-03-029
TC-03-030	Calculate BMI (Invalid Height)	TCOV-03-030	TCON-03-030

Table 25.

2.4 Feature Pass/Fail Criteria

Each feature must satisfy the following criteria in order to pass:

I. Pass the test cases
II. 0% calculation error if the feature involves monetary transaction
III. No deadlock
IV. Fulfill its requirement

2.5 Test Deliverables

The following documents will be generated by the system test group and will be delivered after test completion.

Test documentation:

I. Test Plan
II. Test Design Specifications
III. Test Case Specifications
IV. Test Procedure Specifications
V. Test Logs
VI. Test Incident Reports
VII. Test Summary Report

TAB 4

TEST CASE SPECIFICATION

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Test Case Specification

KatoDiet System (KDS)
Independence Verification and Validation

Version: 1.0.0
Date: 03/07/ 2022

Document Control

.`

Document Name	KatoDiet System Test Case Specification
Reference Number	KDS_TCS
Version	1.0.0
Project Code	KDS
Status	In-use
Date Released	03/07/2022

Name	Position	Signature
Prepared By: Mr Ahmad Rusyaidi	Test Manager KatoDiet Testing Company	
Reviewed By: Dr Salmi Baharom	Quality Assurance Team KatoDiet Testing Company	
Approved By: Dr Salmi Baharom	Operation Manager KatoDiet Testing Company	
Approved By: Dr Salmi Baharom	Project Manager KatoDiet	

Version History

Version	Release Date	Section	Amendment
1.0.0	03/07/2022	All	Original document

Distribution List

Version	Release Date	Controlled Copy No	Recipient Name	Department	Issue Date	Return Date
1.0.0	03/07/2022	01	Dr Salmi Baharom	Department of Software Engineering		

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1.0 Introduction

1.1 Purpose

This test case specification supports the following objective:

I. To detail the test cases derived from test coverage in Test Design Specification.

1.2 References

The following IEEE standards have been referenced in preparation of this document:

The following documents provide the test basis for this test design:

I. KDS Software Requirements Specification, KDS_SRS_1.0
II. KDS System Design Specification, KDS_SDD_1.0
III. KDS Test Design Specification, KDS_TDS_1_1.0.0

2.0 Test Cases

2.1 Environment

KATODIET tests will be run using dummy user accounts where tested calculation data input will not involve actual person data. Tests shall be performed on the actual website with the following specification:

Hardware Name	OMEN Laptop 15-ek1016TX
Manufacturer	Hewlett-Packard (HP)
Keyboard	Full-size 4 Zone RGB Shadow Black Keyboard with Numeric Keypad
Card Processor	Intel(R) Core(TM) i7-8750H CPU @ 2.20GHz 2.21 GHz

Table 1.

The following dummy user accounts are needed for testing purposes:

Userid	password	Date of Birth
braun	braun123	15/10/2000

Table 2.

2.2 Test Case

This section details all test cases designed separated according to feature.

2.2.1 Calculate Calories Intake

2.2.1.1 Equivalence Partitioning Calories Intake

Test Case ID				TC-01-001		
Related Feature ID				F004		
Objective				Calculate calories intake		
Covered Test Coverage Item				TCOV-01-001		
Input				**Expected Result**	**Special Procedural Requirements**	**Intercase Dependency**
Date	Time	Food Category	Food Name			
16/5/2020	8.30AM	Protein	Fish	Display calories intake	none	none

Table 3.

Test Case ID				TC-01-002		
Related Feature ID				F004		
Objective				Calculate calories intake		
Covered Test Coverage Item				TCOV-01-002		
Input				**Expected Result**	**Special Procedural Requirements**	**Intercase Dependency**
Date	Time	Food Category	Food Name			
16/5/2020	8.30AM	Mineral	Water	Ask user to re-enter details	none	none

Table 4.

Test Case ID	TC-01-003
Related Feature ID	F004
Objective	Calculate calories intake
Covered Test Coverage Item	TCOV-01-003

Input				Expected Result	Special Procedural Requirements	Intercase Dependency
Date	Time	Food Category	Food Name			
16/5/2020	8.30AM	Carbohydrate	Nasi Lemak	Display calories intake	none	none

Table 5.

Test Case ID				TC-01-004		
Related Feature ID				F004		
Objective				Calculate calories intake		
Covered Test Coverage Item				TCOV-01-004		
Input				**Expected Result**	**Special Procedural Requirements**	**Intercase Dependency**
Date	Time	Food Category	Food Name			
16/5/2020	8.30AM	Fruit and Vegetable	Nut	Ask user to re-enter details	none	none

Table 6.

Test Case ID				TC-01-005		
Related Feature ID				F004		
Objective				Calculate calories intake		
Covered Test Coverage Item				TCOV-01-005		
Input				**Expected Result**	**Special Procedural Requirements**	**Intercase Dependency**
Date	Time	Food Category	Food Name			
16/5/2020	10.00PM	Carbohydrate	21-characters	Ask user to re-enter details	none	none

Table 7.

2.2.1.2 Boundary Value Analysis Calories Intake

Test Case ID				TC-01-006		
Related Feature ID				F004		
Objective				Calculate calories intake		
Covered Test Coverage Item				TCOV-01-006		
Input				**Expected Result**	**Special Procedural Requirements**	**Intercase Dependency**
Date	Time	Food Category	Food Name			
20/12/2021	1.30PM	Carbohydrate	Rice	Display calories intake	none	none

Table 8.

Test Case ID	TC-01-007
Related Feature ID	F00
Objective	Calculate calories intake

Covered Test Coverage Item				TCOV-01-007		
Input				**Expected Result**	**Special Procedural Requirements**	**Intercase Dependency**
Date	Time	Food Category	Food Name			
20/12/2021	4.30PM	Fruit and Vegetable	Nut	Ask user to re-enter details	none	none

Table 9.

Test Case ID				TC-01-008		
Related Feature ID				F004		
Objective				Calculate calories intake		
Covered Test Coverage Item				TCOV-01-008		
Input				**Expected Result**	**Special Procedural Requirements**	**Intercase Dependency**
Date	Time	Food Category	Food Name			
20/12/2021	9.30PM	Protein	Wagyu	Display calories intake	none	none

Table 10.

Test Case ID				TC-01-009		
Related Feature ID						
Objective				Calculate calories intake		
Covered Test Coverage Item				TCOV-02-009		
Input				**Expected Result**	**Special Procedural Requirements**	**Intercase Dependency**
Date	Time	Food Category	Food Name			
10/9/2021	1.30PM	Carbohydrates	21-characters	Ask user to re-enter details	none	none

Table 11.

Test Case ID	TC-01-010
Related Feature ID	F004
Objective	Calculate calories intake
Covered Test Coverage Item	TCOV-01-010

Input				Expected Result	Special Procedural Requirements	Intercase Dependency
Date	Time	Food Category	Food Name			
10/9/2021	2.30PM	Protein	20-character	Display calories intake	none	none

Table 12.

Test Case ID				TC-01-011		
Related Feature ID				F004		
Objective				Calculate calories intake		
Covered Test Coverage Item				TCOV-01-011		
Input				**Expected Result**	**Special Procedural Requirements**	**Intercase Dependency**
Date	Time	Food Category	Food Name			
10/9/2021	10.30PM	Carbohydrate	Char kuey teow	Display calories intake	none	none

Table 13.

2.2.1.3 Decision Table Calories Intake

Test Case ID				TC-01-012		
Related Feature ID				F004		
Objective				Calculate calories intake		
Covered Test Coverage Item				TCOV-01-012		
Input				**Expected Result**	**Special Procedural Requirements**	**Intercase Dependency**
Date	Time	Food Category	Food Name			
10/9/2021	10.30PM	Carbohydrate	Char kuey teow	Display calories intake	none	none

Table 14.

Test Case ID	TC-01-013
Related Feature ID	F004
Objective	Calculate calories intake
Covered Test Coverage Item	TCOV-01-013

Input				Expected Result	Special Procedural Requirements	Intercase Dependency
Date	Time	Food Category	Food Name			
10/9/2021	10.30PM	Carbohydrate	null	Ask user to re-enter details	none	none

Table 15.

Test Case ID				TC-01-0014		
Related Feature ID				F004		
Objective				Calculate calories intake		
Covered Test Coverage Item				TCOV-01-014		
Input				**Expected Result**	**Special Procedural Requirements**	**Intercase Dependency**
Date	Time	Food Category	Food Name			
10/9/2021	10.30PM	null	-	Ask user to re-enter details	none	none

Table 16.

Test Case ID				TC-01-015		
Related Feature ID				F004		
Objective				Calculate calories intake		
Covered Test Coverage Item				TCOV-01-015		
Input				**Expected Result**	**Special Procedural Requirements**	**Intercase Dependency**
Date	Time	Food Category	Food Name			
10/9/2021	null	-	-	Ask user to re-enter details	none	none

Table 17.

Test Case ID	TC-01-016
Related Feature ID	F004
Objective	Calculate calories intake
Covered Test Coverage Item	TCOV-01-016

Input				Expected Result	Special Procedural Requirements	Intercase Dependency
Date	Time	Food Category	Food Name			
null	-	-	-	Ask user to re-enter details	none	none

Table 18.

2.2.1.4 Control Structure Calories Intake

Test Case ID	TC-01-017					
Related Feature ID	F004					
Objective	Calculate calories intake					
Covered Test Coverage Item	TCOV-01-017					
Input				**Expected Result**	**Special Procedural Requirements**	**Intercase Dependency**
Date	Time	Food Category	Food Name			
10/9/2021	10.30PM	Carbohydrate	Rice	Display calories intake	none	none

Table 19.

Test Case ID				TC-01-018		
Related Feature ID				F004		
Objective				Calculate calories intake		
Covered Test Coverage Item				TCOV-01-018		
Input				**Expected Result**	**Special Procedural Requirements**	**Intercase Dependency**
Date	Time	Food Category	Food Name			
10/9/2021	10.30PM	Protein	Fish	Display calories intake	none	none

Table 20.

Test Case ID	TC-01-019
Related Feature ID	F004
Objective	Calculate calories intake
Covered Test Coverage Item	TCOV-01-019

Input				Expected Result	Special Procedural Requirements	Intercase Dependency
Date	Time	Food Category	Food Name			
10/9/2021	10.30PM	Fat	Butter	Display calories intake	none	none

Table 21.

Test Case ID	TC-01-020					
Related Feature ID	F004					
Objective	Calculate calories intake					
Covered Test Coverage Item	TCOV-01-020					
Input				**Expected Result**	**Special Procedural Requirements**	**Intercase Dependency**
Date	Time	Food Category	Food Name			
10/9/2021	10.30PM	Fruit and Vegetables	Salad	Display calories intake	none	none

Table 22.

Test Case ID				TC-01-021		
Related Feature ID				F004		
Objective				Calculate calories intake		
Covered Test Coverage Item				TCOV-01-021		
Input				**Expected Result**	**Special Procedural Requirements**	**Intercase Dependency**
Date	Time	Food Category	Food Name			
10/9/2021	10.30PM	Mineral	Water	Display calories intake	none	none

Table 23.

2.2.2 Calculate Calories Burn

2.2.2.1 Equivalence Partitioning

Test Case ID				TC-02-001		
Related Feature ID				F005		
Objective				Calculate user's calories burned		
Covered Test Coverage Item				TCOV-02-001		
Input				**Expected Result**	**Special Procedural Requirements**	**Intercase Dependency**
Date	Time	Exercise Type	Exercise Duration			
16/5/2022	02:30 PM	Bicycling	2 hours 30 minutes	message = true caloriesBurn = 730	none	none

Table 24.

Test Case ID	TC-02-002
Related Feature ID	F005
Objective	Calculate user's calories burned

Covered Test Coverage Item				TCOV-02-002		
Input				**Expected Result**	**Special Procedural Requirements**	**Intercase Dependency**
Date	Time	Exercise Type	Exercise Duration			
16/5/2022	02:30 PM	Jogging	2 hours 30 minutes	message = false	none	none

Table 25.

2.2.2.1.1 Exercise Duration

Test Case ID				TC-02-003		
Related Feature ID				F005		
Objective				Calculate user's calories burned		
Covered Test Coverage Item				TCOV-02-003		
Input				**Expected Result**	**Special Procedural Requirements**	**Intercase Dependency**
Date	Time	Exercise Type	Exercise Duration			
16/5/2022	02:30 PM	Bicycling	2 hours 30 minutes	message = true caloriesBurn = 730	none	none

Table 26.

Test Case ID				TC-02-004		
Related Feature ID				F005		
Objective				Calculate user's calories burned		
Covered Test Coverage Item				TCOV-02-004		
Input				**Expected Result**	**Special Procedural Requirements**	**Intercase Dependency**
Date	Time	Exercise Type	Exercise Duration			
16/5/2022	02:30 PM	Bicycling	57 minutes	message = false	none	none

Table 27.

2.2.2.2 Decision Table

Test Case ID	TC-02-005
Related Feature ID	F005
Objective	Calculate user's calories burned
Covered Test Coverage Item	TCOV-02-005

Input				Expected Result	Special Procedural Requirements	Intercase Dependency
Date	Time	Exercise Type	Exercise Duration			
16/5/2022	02:30 PM	Bicycling	2 hours 30 minutes	message = true caloriesBurn = 730	none	none

Table 28.

Test Case ID				TC-02-006		
Related Feature ID				F005		
Objective				Calculate user's calories burned		
Covered Test Coverage Item				TCOV-02-006		
Input				**Expected Expected Result**	**Special Procedural Requirements**	**Intercase Dependency**
Date	Time	Exercise Type	Exercise Duration			
16/5/2022	02:30 PM	Bicycling	-	message = false	none	none

Table 29.

Test Case ID				TC-02-007		
Related Feature ID				F005		
Objective				Calculate user's calories burned		
Covered Test Coverage Item				TCOV-02-007		
Input				**Expected Result**	**Special Procedural Requirements**	**Intercase Dependency**
Date	Time	Exercise Type	Exercise Duration			
16/5/2022	02:30 PM	-	2 hours 30 minutes	message = false	none	none

Table 30.

Test Case ID				TC-02-008		
Related Feature ID				F005		
Objective				Calculate user's calories burned		
Covered Test Coverage Item				TCOV-02-008		
Input				**Expected Result**	**Special Procedural Requirements**	**Intercase Dependency**
Date	Time	Exercise Type	Exercise Duration			
16/5/2022	-	Bicycling	2 hours 30 minutes	message = false	none	none

Table 31.

Test Case ID				TC-02-009		
Related Feature ID				F005		
Objective				Calculate user's calories burned		
Covered Test Coverage Item				TCOV-02-009		
Input				**Expected Result**	**Special Procedural Requirements**	**Intercase Dependency**
Date	Time	Exercise Type	Exercise Duration			
-	02:30 PM	Bicycling	2 hours 30 minutes	message = false	none	none

Table 32.

2.2.2.3 Control Structure Testing

2.2.2.3.1 Code Under Test: exercise.java

2.2.2.3.1.1 Checking Type Of Exercise

Test Case ID				TC-02-010		
Related Feature ID				F005		
Objective				Calculate user's calories burned		
Covered Test Coverage Item				TCOV-02-011		
Input				**Expected Result**	**Special Procedural Requirements**	**Intercase Dependency**
Date	Time	Exercise Type	Exercise Duration			
16/5/2022	02:30 PM	Bicycling	2 hours 30 minutes	message = true caloriesBurn = 730	none	none

Table 33.

Test Case ID				TC-02-011		
Related Feature ID				F005		
Objective				Calculate user's calories burned		
Covered Test Coverage Item				TCOV-02-012		
Input				**Expected Result**	**Special Procedural Requirements**	**Intercase Dependency**
Date	Time	Exercise Type	Exercise Duration			
16/5/2022	02:30 PM	Hiking	2 hours 30 minutes	message = true caloriesBurn = 1095	none	none

Table 34.

Test Case ID	TC-02-012
Related Feature ID	F005
Objective	Calculate user's calories burned
Covered Test Coverage Item	TCOV-02-013

Input				Expected Result	Special Procedural Requirements	Intercase Dependency
Date	Time	Exercise Type	Exercise Duration			
16/5/2022	02:30 PM	Running	2 hours 30 minutes	message = true caloriesBurn = 1515	none	none

Table 35.

Test Case ID				TC-02-013		
Related Feature ID				F005		
Objective				Calculate user's calories burned		
Covered Test Coverage Item				TCOV-02-014		
Input				**Expected Result**	**Special Procedural Requirements**	**Intercase Dependency**
Date	Time	Exercise Type	Exercise Duration			
16/5/2022	02:30 PM	Swimming	2 hours 30 minutes	message = true caloriesBurn = 1057.5	none	none

Table 36.

Test Case ID				TC-02-014		
Related Feature ID				F005		
Objective				Calculate user's calories burned		
Covered Test Coverage Item				TCOV-02-015		
Input				**Expected Result**	**Special Procedural Requirements**	**Intercase Dependency**
Date	Time	Exercise Type	Exercise Duration			
16/5/2022	02:30 PM	Walking	2 hours 30 minutes	message = true caloriesBurn = 785	none	none

Table 37.

2.2.2.3.1.2 Checking Date Insertion

Remarks: the test cases are covered in decision table testing.

2.2.2.3.1.3 Checking Time Insertion

Remarks: the test cases are covered in decision table testing.

2.2.2.3.1.4 Checking Exercise Type Insertion

Remarks: the test cases are covered in decision table testing.

2.2.2.3.1.5 Checking Exercise Duration Insertion

Test Case ID				TC-02-015		
Related Feature ID				F005		
Objective				Calculate user's calories burned		
Covered Test Coverage Item				TCOV-02-016		
Input				**Expected Result**	**Special Procedural Requirements**	**Intercase Dependency**
Date	Time	Exercise Type	Exercise Duration			
16/5/2022	02:30 PM	Running	30 minutes	message = true caloriesBurn = 303	none	none

Table 38.

Test Case ID	TC-02-016
Related Feature ID	F005
Objective	Calculate user's calories burned
Covered Test Coverage Item	TCOV-02-017

Input				Expected Result	Special Procedural Requirements	Intercase Dependency
Date	Time	Exercise Type	Exercise Duration			
16/5/2022	02:30 PM	Running	1 hour	message = true caloriesBurn = 606	none	none

Table 39.

Test Case ID				TC-02-017		
Related Feature ID				F005		
Objective				Calculate user's calories burned		
Covered Test Coverage Item				TCOV-02-018		
Input				**Expected Result**	**Special Procedural Requirements**	**Intercase Dependency**
Date	Time	Exercise Type	Exercise Duration			
16/5/2022	02:30 PM	Running	1 hours 30 minutes	message = true caloriesBurn = 909	none	none

Table 40.

Test Case ID				TC-02-018		
Related Feature ID				F005		
Objective				Calculate user's calories burned		
Covered Test Coverage Item				TCOV-02-019		
Input				**Expected Result**	**Special Procedural Requirements**	**Intercase Dependency**
Date	Time	Exercise Type	Exercise Duration			
16/5/2022	02:30 PM	Running	2 hours	message = true caloriesBurn = 1212	none	none

Table 41.

Test Case ID	TC-02-019
Related Feature ID	F005
Objective	Calculate user's calories burned
Covered Test Coverage Item	TCOV-02-020

Input				Expected Result	Special Procedural Requirements	Intercase Dependency
Date	Time	Exercise Type	Exercise Duration			
16/5/2022	02:30 PM	Running	2 hours 30 minutes	message = true caloriesBurn = 1515	none	none

Table 42.

Test Case ID				TC-02-020		
Related Feature ID				F005		
Objective				Calculate user's calories burned		
Covered Test Coverage Item				TCOV-02-021		
Input				**Expected Result**	**Special Procedural Requirements**	**Intercase Dependency**
Date	Time	Exercise Type	Exercise Duration			
16/5/2022	02:30 PM	Running	3 hours	message = true caloriesBurn = 1818	none	none

Table 43.

Test Case ID				TC-02-021		
Related Feature ID				F005		
Objective				Calculate user's calories burned		
Covered Test Coverage Item				TCOV-02-022		
Input				**Expected Result**	**Special Procedural Requirements**	**Intercase Dependency**
Date	Time	Exercise Type	Exercise Duration			
16/5/2022	02:30 PM	Running	3 hours 30 minutes	message = true caloriesBurn = 2121	none	none

Table 44.

Test Case ID	TC-02-022
Related Feature ID	F005
Objective	Calculate user's calories burned
Covered Test Coverage Item	TCOV-02-023

Input				Expected Result	Special Procedural Requirements	Intercase Dependency
Date	Time	Exercise Type	Exercise Duration			
16/5/2022	02:30 PM	Running	4 hours	message = true caloriesBurn = 2424	none	none

Table 45.

Test Case ID				TC-02-023		
Related Feature ID				F005		
Objective				Calculate user's calories burned		
Covered Test Coverage Item				TCOV-02-024		
Input				**Expected Result**	**Special Procedural Requirements**	**Intercase Dependency**
Date	Time	Exercise Type	Exercise Duration			
16/5/2022	02:30 PM	Running	4 hours 30 minutes	message = true caloriesBurn = 2727	none	none

Table 46.

Test Case ID				TC-02-024		
Related Feature ID				F005		
Objective				Calculate user's calories burned		
Covered Test Coverage Item				TCOV-02-025		
Input				**Expected Result**	**Special Procedural Requirements**	**Intercase Dependency**
Date	Time	Exercise Type	Exercise Duration			
16/5/2022	02:30 PM	Running	5 hours	message = true caloriesBurn = 3030	none	none

Table 47.

2.2.3 Calculate BMI

2.2.3.1 Equivalence Partitioning (Height)

Test Case ID	TC-03-001			
Related Feature ID	F006			
Objective	Calculate user's BMI using height and weight			
Covered Test Coverage Item	TCOV-03-001			
Input		**Expected Result**	**Special Procedural Requirements**	**Intercase Dependency**
Height (cm)	Weight (KG)			
176	85	27.44 (Overweight)	none	none

Table 48.

Test Case ID	TC-03-002		
Related Feature ID	F006		
Objective	Calculate user’s BMI using height and weight		
Covered Test Coverage Item	TCOV-03-002		
Input		**Expected Result**	**Special Procedural Requirements**	**Intercase Dependency**
Height (cm)	Weight (KG)			
76	85	error	none	none

Table 49.

Test Case ID	TC-03-003		
Related Feature ID	F006		
Objective	Calculate user’s BMI using height and weight		
Covered Test Coverage Item	TCOV-03-003		
Input		**Expected Result**	**Special Procedural Requirements**	**Intercase Dependency**
Height (cm)	Weight (KG)			
376	85	error	none	none

Table 50.

2.2.3.2 Equivalence Partitioning (Weight)

Test Case ID	TC-03-004			
Related Feature ID	F006			
Objective	Calculate user's BMI using height and weight			
Covered Test Coverage Item	TCOV-03-004			
Input		**Expected Result**	**Special Procedural Requirements**	**Intercase Dependency**
Height (cm)	Weight (KG)			
176	69	22.3 (Normal)	none	none

Table 51.

Test Case ID	TC-03-005
Related Feature ID	F006
Objective	Calculate user's BMI using height and weight
Covered Test Coverage Item	TCOV-03-005

Input		Expected Result	Special Procedural Requirements	Intercase Dependency
Height (cm)	Weight (KG)			
176	25	error	none	none

Table 52.

Test Case ID	TC-03-006			
Related Feature ID	F006			
Objective	Calculate user's BMI using height and weight			
Covered Test Coverage Item	TCOV-03-006			
Input		Expected Result	Special Procedural Requirements	Intercase Dependency
Height (cm)	Weight (KG)			
176	700	error	none	none

Table 53.

2.2.3.3 Boundary Value Analysis (Height)

Test Case ID	TC-03-007			
Related Feature ID	F006			
Objective	Calculate user's BMI using height and weight			
Covered Test Coverage Item	TCOV-03-007			
Input		**Expected Result**	**Special Procedural Requirements**	**Intercase Dependency**
Height (cm)	Weight (KG)			
99	100	error	none	none

Table 54.

Test Case ID	TC-03-008
Related Feature ID	F006
Objective	Calculate user's BMI using height and weight
Covered Test Coverage Item	TCOV-03-008

Input		Expected Result	Special Procedural Requirements	Intercase Dependency
Height (cm)	Weight (KG)			
100	100	error	none	none

Table 55.

Test Case ID	TC-03-009			
Related Feature ID	F006			
Objective	Calculate user's BMI using height and weight			
Covered Test Coverage Item	TCOV-03-009			
Input		Expected Result	Special Procedural Requirements	Intercase Dependency
Height (cm)	Weight (KG)			
101	100	98 (Obese)	none	none

Table 56.

Test Case ID	TC-03-010		
Related Feature ID	F006		
Objective	Calculate user's BMI using height and weight		
Covered Test Coverage Item	TCOV-03-010		
Input		**Expected Result**	**Special Procedural Requirements**	**Intercase Dependency**
Height (cm)	Weight (KG)			
299	100	11.2 (Underweight)	none	none

Table 57.

Test Case ID	TC-03-011
Related Feature ID	F006
Objective	Calculate user's BMI using height and weight
Covered Test Coverage Item	TCOV-03-011

Input		Expected Result	Special Procedural Requirements	Intercase Dependency
Height (cm)	Weight (KG)			
300	100	error	none	none

Table 58.

Test Case ID	TC-03-012			
Related Feature ID	F006			
Objective	Calculate user's BMI using height and weight			
Covered Test Coverage Item	TCOV-03-012			
Input		Expected Result	Special Procedural Requirements	Intercase Dependency
Height (cm)	Weight (KG)			
301	100	error	none	none

Table 59.

2.2.3.4 Boundary Value Analysis (Weight)

Test Case ID		TC-03-013		
Related Feature ID		F006		
Objective		Calculate user's BMI using height and weight		
Covered Test Coverage Item		TCOV-03-013		
Input		**Expected Result**	**Special Procedural Requirements**	**Intercase Dependency**
Height (cm)	Weight (KG)			
180	29	error	none	none

Table 60.

Test Case ID	TC-03-014
Related Feature ID	F006
Objective	Calculate user's BMI using height and weight
Covered Test Coverage Item	TCOV-03-014

Input		Expected Result	Special Procedural Requirements	Intercase Dependency
Height (cm)	Weight (KG)			
180	30	error	none	none

Table 61.

Test Case ID	TC-03-015			
Related Feature ID	F006			
Objective	Calculate user's BMI using height and weight			
Covered Test Coverage Item	TCOV-03-015			
Input		Expected Result	Special Procedural Requirements	Intercase Dependency
Height (cm)	Weight (KG)			
180	31	9.6 (Underweight)	none	none

Table 62.

Test Case ID	TC-03-016		
Related Feature ID	F006		
Objective	Calculate user’s BMI using height and weight		
Covered Test Coverage Item	TCOV-03-016		
Input	**Expected Result**	**Special Procedural Requirements**	**Intercase Dependency**
Height (cm) / Weight (KG)			
180 / 649	error	none	none

Table 63.

Test Case ID	TC-03-017		
Related Feature ID	F006		
Objective	Calculate user’s BMI using height and weight		
Covered Test Coverage Item	TCOV-03-017		
Input	**Expected Result**	**Special Procedural Requirements**	**Intercase Dependency**

Height (cm)	Weight (KG)			
180	650	error	none	none

Table 64.

Test Case ID	TC-03-018		
Related Feature ID	F006		
Objective	Calculate user's BMI using height and weight		
Covered Test Coverage Item	TCOV-03-018		
Input		**Expected Result**	**Special Procedural Requirements**	**Intercase Dependency**
Height (cm)	Weight (KG)			
180	651	error	none	none

Table 65.

2.2.3.5 Decision Table

Test Case ID			TC-03-019		
Related Feature ID			F006		
Objective			Calculate user's BMI using height and weight		
Covered Test Coverage Item			TCOV-03-019		
Input			**Expected Result**	**Special Procedural Requirements**	**Intercase Dependency**
Date	Height (cm)	Weight (KG)			
9/7/2022	88	-	Ask user to re-enter details	none	none

Table 66.

Test Case ID	TC-03-020
Related Feature ID	F006
Objective	Calculate user's BMI using height and weight
Covered Test Coverage Item	TCOV-03-020

Input			Expected Result	Special Procedural Requirements	Intercase Dependency
Date	Height (cm)	Weight (KG)			
9/7/2022	150	25	Ask user to re-enter details	none	none

Table 67.

Test Case ID			TC-03-021		
Related Feature ID			F006		
Objective			Calculate user's BMI using height and weight		
Covered Test Coverage Item					
Input			Expected Result	Special Procedural Requirements	Intercase Dependency
Date	Height (cm)	Weight (KG)			
9/7/2022	190	79	2.2 (Underweight)	none	none

Table 68.

Test Case ID			TC-03-022		
Related Feature ID			F006		
Objective			Calculate user's BMI using height and weight		
Covered Test Coverage Item			TCOV-03-022		
Input			**Expected Result**	**Special Procedural Requirements**	**Intercase Dependency**
Date	Height (cm)	Weight (KG)			
9/7/2022	210	779	Ask user to re-enter details	none	none

Table 69.

Test Case ID	TC-03-023
Related Feature ID	F006
Objective	Calculate user's BMI using height and weight
Covered Test Coverage Item	TCOV-03-023

Input			Expected Result	Special Procedural Requirements	Intercase Dependency
Date	Height (cm)	Weight (KG)			
9/7/2022	400	-	Ask user to re-enter details	none	none

Table 70.

Test Case ID			TC-03-024		
Related Feature ID			F006		
Objective			Calculate user's BMI using height and weight		
Covered Test Coverage Item			TCOV-03-024		
Input			**Expected Result**	**Special Procedural Requirements**	**Intercase Dependency**
Date	Height (cm)	Weight (KG)			
-	-	-	No action taken	none	none

Table 71.

2.2.3.6 Control Structure Testing

2.2.3.6.1 Code Under Test: Weight.java

2.2.3.6.1.1 Checking Type Of Weight

Related Feature ID	TC-03-025		
Objective	Calculate user's BMI using height and weight		
Covered Test Coverage Item	TCOV-03-025		
Input	**Expected Result**	**Special Procedural Requirements**	**Intercase Dependency**
Weight (KG)			
70	22.8 (Normal)	none	none

Table 72.

Related Feature ID	TC-03-026		
Objective	Calculate user's BMI using height and weight		
Covered Test Coverage Item	TCOV-03-026		
Input	**Expected Result**	**Special Procedural Requirements**	**Intercase Dependency**
Weight (KG)			
80	26.1 (Overweight)	none	none

Table 73.

Related Feature ID	TC-03-027		
Objective	Calculate user's BMI using height and weight		
Covered Test Coverage Item	TCOV-03-027		
Input	**Expected Result**	**Special Procedural Requirements**	**Intercase Dependency**
Weight (KG)			
601	error	none	none

Table 74.

2.2.3.6.1.2 Checking Height

Related Feature ID	TC-03-028		
Objective	Calculate user's BMI using height and weight		
Covered Test Coverage Item	TCOV-03-028		
Input	**Expected Result**	**Special Procedural Requirements**	**Intercase Dependency**
Height (cm)			
175	26.1 (Overweight)	none	none

Table 75.

Related Feature ID	TC-03-029		
Objective	Calculate user's BMI using height and weight		
Covered Test Coverage Item	TCOV-03-029		
Input	**Expected Result**	**Special Procedural Requirements**	**Intercase Dependency**
Height (cm)			
170	27.7 (Overweight)	none	none

Table 76.

Related Feature ID	TC-03-030		
Objective	Calculate user’s BMI using height and weight		
Covered Test Coverage Item	TCOV-03-030		
Input	**Expected Result**	**Special Procedural Requirements**	**Intercase Dependency**
Height (cm)			
70	error	none	none

Table 77.

TAB 5

TEST PROCEDURE SPECIFICATION

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Test Procedure Specification

KatoDiet System (KDS)
Independence Verification and Validation

Version: 1.0.0
Date: 03/07/ 2022

Document Control

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Document Name	KatoDiet System Test Procedure Specification
Reference Number	KDS_TPS
Version	1.0.0
Project Code	KDS
Status	In-use
Date Released	03/07/2022

Name	Position	Signature
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Version History

Version	Release Date	Section	Amendment
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1.0.0	03/07/2022	01	Dr Salmi Baharom	Department of Software Engineering		

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1.0 Introduction

1.1 Purpose

This procedure describes the steps necessary to perform the test specified in the test design specification for KDS. The procedure describes the execution of the test case described in Test Case Specification KDS_TCS 1 1.0.

For test design specification and test cases, please refer to the following documents:

I. KDS Test Design Specification (KDS_TDS_1_1.0.0)

II. KDS Test Case Specification (KDS_TCS_T_T.0.0)

1.2 Scope

The following features are covered in this procedure:

Feature ID	Feature	Description	Accessible Role
F004	Calories Intake Calculator	To allow user to calculate their calories intake	User
F005	Calories Burn Calculator	To allow user to calculate their calories burn	User
F006	BMI Calculator	To allow user to calculate their bmi status	User

Table 1.

1.3 References

The following IEEE standards have been referenced in preparation of this document:

I. IEEE 829-1998 Standard for Software and System Test Documentation
II. IEEE 829-2008 Standard for Software and System Test Documentation

The following documents provide the test basis for this test design:

I. KDS Software Requirement Specifications (KDS_SRS_1.0)

2.0 Test Procedure

2.1 Calories Intake Calculator Test Procedure

Prior to execution of the following test procedures, these special requirements must be prepared:

I. User need to register new account

II. User need to login using the existing account

Test Procedure ID	TP-01-001
Objective	Calculate calories intake - Main Flow
Test Cases To Be Executed	TC-01-001, TC-01-003, TC-01-006, TC-01-008, TC-01-010, TC-01-011, TC-01-012, TC-01-017, TC-01-018, TC-01-019, TC-01-020
Set Up	1. Input date (30/6/2021) and time (10.30a.m) [TC-01-012] 2. Input food (Carbohydrate/Protein/Fat/Fruit and Vegetables) category [TC-01-001, TC-01-017,TC-01-018, TC-01-019, TC-01-020] 3. Input food name (rice) [TC-01-003, TC-01-008, TC-01-010, TC-01-011]
Wrap Up	1. Press submit button

Table 2.

Test Procedure ID	TP-01-002
Objective	Calculate calories intake Alternative Flow - Invalid Food Category
Test Cases To Be Executed	TC-01-002,TC-01-014, TC-01-021
Set Up	1. Input date (30/6/2021) and time (10.30a.m) 2. Input invalid food category (Mineral) [TC-01-002, TC-01-014, TC-01-021] 3. Input food name
Wrap Up	1. Press submit button

Table 3.

Test Procedure ID	TP-01-003
Objective	Calculate calories intake Alternative Flow - Invalid Food Name
Test Cases To Be Executed	TC-01-004, TC-01-005, TC-01-007, TC-01-009, TC-01-013
Set Up	1. Input date (30/6/2021) and time (10.30a.m) 2. Input food category 3. Input invalid food name (nut) [TC-01-004, TC-01-005, TC-01-007, TC-01-009, TC-01-013]
Wrap Up	1. Press submit button

Table 4.

Test Procedure ID	TP-01-004
Objective	Calculate calories intake Alternative Flow - Invalid Date and Time
Test Cases To Be Executed	TC-01-015, TC-01-016
Set Up	1. Input invalid date (null) [TC-01-016] 2. Input invalid time (null) [TC-01-015] 4. Input food category 5. Input food name
Wrap Up	2. Press submit button

Table 5.

2.2 Calories Burn Calculator Test Procedure

Prior to execution of the following test procedures, these special requirements must be prepared:

I. User has registered
II. User has logged in

Test Procedure ID	TP-02-001
Objective	Calculate Calories Burn - Main Flow
Test Cases To Be Executed	TC-02-001, TC-02-005, TC-02-010, TC-02-011, TC-02-012, TC-02-013,TC-02-014, TC-02-003, TC-02-015, TC-02-016, TC-02-017, TC-02-018, TC-02-019, TC-02-020, TC-02-021, TC-02-022, TC-02-023, TC-02-024
Set Up	1. User enter valid date (16/5/2022) and time (2:30pm) [TC-02-001, TC-02-005] 2. User enter valid exercise type (Bicycling/Hiking/Running/Swimming/Walking) [TC-02-010, TC-02-011, TC-02-012, TC-02-013,TC-02-014] 3. User enter valid exercise duration (30 minutes, 1 hour, 2 hours, 2 hours 30 minutes, 3 hours, 3 hours 30 minutes, 4 hours, 4 hours 30 minutes, 5 hours) [TC-02-003, TC-02-015, TC-02-016, TC-02-017, TC-02-018, TC-02-019, TC-02-020, TC-02-021, TC-02-022, TC-02-023, TC-02-024]
Wrap Up	1. User clicks submit

Table 6.

Test Procedure ID	TP-02-002
Objective	Calculate Calories Burn Alternative Flow - Invalid Exercise Type
Test Cases To Be Executed	TC-02-002
Set Up	1. User enter valid date (16/5/2022) and time (2:30pm) 2. User did not enter or enter invalid exercise type (Jogging) [TC-02-002, TC-02-008] 3. User enter valid exercise duration (2 hours 30 minutes)
Wrap Up	1. User clicks submit

Table 7.

Test Procedure ID	TP-02-003
Objective	Calculate Calories Burn Alternative Flow - Invalid Exercise Duration
Test Cases To Be Executed	TC-02-004, TC-02-006
Set Up	1. User enter valid date (16/5/2022) and time (2:30pm) [TC-02-001] 2. User enter valid exercise type (Bicycling) [TC-02-004, TC-02-010] 3. User did not enter or enter exercise duration (57 minutes) [TC-02-004, TC-02-006]
Wrap Up	1. User clicks submit

Table 8.

Test Procedure ID	TP-02-004
Objective	Calculate Calories Burn Alternative Flow - Invalid Date and Time
Test Cases To Be Executed	TC-02-008, TC-02-009
Set Up	4. User enter did not enter date and/or time [TC-02-008, TC-02-009] 5. User enter exercise type (Bicycling) 6. User enter exercise duration (30 minutes)
Wrap Up	2. User clicks submit

Table 9.

2.3 BMI Calculator Test Procedure

Prior to execution of the following test procedures, these special requirements must be prepared:

I. User has registered
II. User has logged in

Test Procedure ID	TP-03-001
Objective	Calculate user's BMI - Valid Height and Weight
Test Cases To Be Executed	TC-03-001, TC-03-004, TC-03-008, TC-03-009, TC-03-010, TC-03-011, TC-03-014, TC-03-015, TC-03-016, TC-03-017, TC-03-021, TC-03-025, TC-03-026, TC-03-028, TC-03-029
Set Up	1. User enter date (9/7/2022) and time (2:30pm) [TC-03-001, TC-03-008, TC-03-009, TC-03-010, TC-03-015] 2. User enter height (176 cm) [TC-03-004] 3. User enter weight [TC-03-016, TC-03-017, TC-03-021, TC-03-025, TC-03-026, TC-03-028, TC-03-029]
Wrap Up	1. User clicks submit

Table 10.

Test Procedure ID	TP-03-002
Objective	Calculate user's BMI - Invalid Height
Test Cases To Be Executed	TC-03-002, TC-03-003, TC-03-007, TC-03-012, TC-03-019, TC-03-023, TC-03-024, TC-03-030
Set Up	4. User enter date (9/7/2022) and time (2:30pm) [TC-03-012, TC-03-023, TC-03-024, TC-03-030] 5. User enter height (88 cm) [TC-03-019] 6. User enter weight (85 KG) [TC-03-002, TC-03-003, TC-03-007]
Wrap Up	1. User clicks submit

Table 11.

Test Procedure ID	TP-03-003
Objective	Calculate user's BMI - Invalid Weight
Test Cases To Be Executed	TC-03-005, TC-03-006, TC-03-013, TC-03-018, TC-03-020, TC-03-022, TC-03-027
Set Up	7. User enter date (9/7/2022) and time (2:30pm) [TC-03-005, TC-03-006, TC-03-013, TC-03-018, TC-03-020] 8. User enter height (210 cm) [TC-03-022] 9. User enter weight (601 KG) [TC-03-027]
Wrap Up	1. User clicks submit

Table 12.

TAB 6

TEST LOG

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Test Log

KatoDiet System (KDS)
Independence Verification and Validation

Version: 1.0.0
Date: 03/07/ 2022

Document Control

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Document Name	KatoDiet System Test Log
Reference Number	KDS_TL
Version	1.0.0
Project Code	KDS
Status	In-use
Date Released	03/07/2022

Name	Position	Signature
Prepared By: Mr Ahmad Rusyaidi	Test Manager KatoDiet Testing Company	
Reviewed By: Dr Salmi Baharom	Quality Assurance Team KatoDiet Testing Company	
Approved By: Dr Salmi Baharom	Operation Manager KatoDiet Testing Company	
Approved By: Dr Salmi Baharom	Project Manager KatoDiet	

Version History

Version	Release Date	Section	Amendment
1.0.0	03/07/2022	All	Original document

Distribution List

Version	Release Date	Controlled Copy No	Recipient Name	Department	Issue Date	Return Date
1.0.0	03/07/2022	01	Dr Salmi Baharom	Department of Software Engineering		

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2.0 Procedure Result **3**

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1.0 General Information

General Information			
Test Log Scope	This Test Log covered Calculate Calories Intake (F004), Calculate Calories Burn (F005) and Calculate BMI (F006) as describe in Test Plan, KDS_TP_1.0.0		
Test Log Description	The item tested was the Calculate Calories Intake (F004), Calculate Calories Burn (F005) and Calculate BMI (F006) feature in KDS 1.1. This test log records the execution of test procedure (KDS_TPS_1.0.0).		
Version Author	Mr Rusyaidi and Mr Qayyum	Contact Number	-
Revision Version	1.0	People Responsible	1. Mr Zaimi 2. Ms Julia 3. Ms Syahirah
Execution Start Date	20/6/2022	End Date	27/6/2022
Execution Start Time	10:00 AM	End Time	15:00PM
Tester Name	Mr Rusyaidi and Mr Qayyum		
Participant	Braun		

Table 1.

2.0 Procedure Result

Procedure Result								
Requirement ID	Test Design ID	Test Case ID	Test Procedure ID	Type of Testing	Tool	Pass/Fail	Test Incident Report/ Test Incident ID	Remark
-	TD-01-01	TC-01-001	TP-01-001	Functional	jUnit	Pass	-	none
		TC-01-002	TP-01-002				-	none
		TC-01-003	TP-01-001				-	none
		TC-01-004	TP-01-003				-	none
		TC-01-005	TP-01-003				-	none
-		TC-01-006	TP-01-001	Functional	jUnit	Pass	-	none
		TC-01-007	TP-01-003				-	none
		TC-01-008	TP-01-001				-	none
		TC-01-009	TP-01-003				-	none
		TC-01-010	TP-01-001				-	none

		TC-01-011	TP-01-001				-	none
-		TC-01-012	TP-01-001	Functional	jUnit	Pass	-	none
		TC-01-013	TP-01-003				-	none
		TC-01-014	TP-01-002				-	none
		TC-01-015	TP-01-004				-	none
		TC-01-016	TP-01-004				-	none
-		TC-01-017	TP-01-001	Functional	jUnit	Pass	-	none
		TC-01-018	TP-01-001				-	none
		TC-01-019	TP-01-001				-	none
		TC-01-020	TP-01-001				-	none
		TC-01-021	TP-01-002				-	none
-		TC-02-001	TP-02-001	functional	jUnit	Pass	-	none
		TC-02-002	TP-02-002				-	none
		TC-02-003	TP-02-001				-	none
		TC-02-004	TP-02-003				-	none

-	TD-02-01	TC-02-005	TP-02-001	Functional	jUnit	Pass	-	none
		TC-02-006	TP-02-003				-	none
		TC-02-007	TP-02-003				-	none
		TC-02-008	TP-02-004				-	none
		TC-02-009	TP-02-004				-	none
-		TC-02-010	TP-02-001	Functional	jUnit	Pass	-	none
		TC-02-011	TP-02-001				-	none
		TC-02-012	TP-02-001				-	none
		TC-02-013	TP-02-001				-	none
		TC-02-014	TP-02-001				-	none
		TC-02-015	TP-02-001				-	none
		TC-02-016	TP-02-001				-	none
		TC-02-017	TP-02-001				-	none
		TC-02-018	TP-02-001				-	none
		TC-02-019	TP-02-001				-	none

		TC-02-020	TP-02-001				-	none
		TC-02-021	TP-02-001				-	none
		TC-02-022	TP-02-001				-	none
		TC-02-023	TP-02-001				-	none
		TC-02-024	TP-02-001				-	none
-		TC-03-001	TP-03-001			Pass	-	none
-		TC-03-002	TP-03-002			Pass	-	none
-		TC-03-003	TP-03-002			Pass	-	none
-		TC-03-004	TP-03-001			Fail	TIR_00_001	none
-		TC-03-005	TP-03-003			Pass	-	none
-		TC-03-006	TP-03-003			Pass	-	none
-		TC-03-007	TP-03-002			Pass	-	none
-		TC-03-008	TP-03-001			Fail	TIR_00_002	none
-		TC-03-009	TP-03-001			Pass	-	none
-		TC-03-010	TP-03-001			Pass	-	none

-	TP-03-01	TC-03-011	TP-03-001	Functional	jUnit	Pass	-	none
-		TC-03-012	TP-03-002			Pass	-	none
-		TC-03-013	TP-03-003			Pass	-	none
-		TC-03-014	TP-03-001			Pass	-	none
-		TC-03-015	TP-03-001			Pass	-	none
-		TC-03-016	TP-03-001			Pass	-	none
-		TC-03-017	TP-03-001			Pass	-	none
-		TC-03-018	TP-03-003			Pass	-	none
-		TC-03-019	TP-03-002			Pass	-	none
-		TC-03-020	TP-03-003			Pass	-	none
-		TC-03-021	TP-03-001			Pass	-	none
-		TC-03-022	TP-03-003			Pass	-	none
-		TC-03-023	TP-03-002			Pass	-	none
-		TC-03-024	TP-03-002			Pass	-	none
-		TC-03-025	TP-03-001			Fail	TIR_00_001	none

-		TC-03-026	TP-03-001			Pass	-	none
-		TC-03-027	TP-03-003			Pass	-	none
-		TC-03-028	TP-03-001			Pass	-	none
-		TC-03-029	TP-03-001			Pass	-	none
-		TC-03-030	TP-03-002			Pass	-	none

Table 2.

TAB 7

TEST INCIDENT REPORT

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Test Incident Report

KatoDiet System (KDS)
Independence Verification and Validation

Version: 1.0.0
Date: 03/07/ 2022

Document Control

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Document Name	KatoDiet System Test Incident Report
Reference Number	KDS_TIR
Version	1.0.0
Project Code	KDS
Status	In-use
Date Released	03/07/2022

Name	Position	Signature
Prepared By: Mr Ahmad Rusyaidi	Test Manager KatoDiet Testing Company	
Reviewed By: Dr Salmi Baharom	Quality Assurance Team KatoDiet Testing Company	
Approved By: Dr Salmi Baharom	Operation Manager KatoDiet Testing Company	
Approved By: Dr Salmi Baharom	Project Manager KatoDiet	

Version History

Version	Release Date	Section	Amendment
1.0.0	03/07/2022	All	Original document

Distribution List

Version	Release Date	Controlled Copy No	Recipient Name	Department	Issue Date	Return Date
1.0.0	03/07/2022	01	Dr Salmi Baharom	Department of Software Engineering		

Project Title : KatoDiet System Independence Verification and Validation		KatoDiet Testing Company
Date: 3/7/2022	Test Plan ID: KDS TIR	

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Project Title : KatoDiet System Independence Verification and Validation		KatoDiet Testing Company
Date: 3/7/2022	Test Plan ID: KDS TIR	

Test Incident Report

Incident Report Identifier (Table 1)	
Scope	The scope of this Test Incident Report is on any incident that occurred based on the Test Procedure executed on KatoDiet System (KDS 1.0.0) and Calculate BMI(F006) which took place during Test Execution Only
References	KDS_TPS_1_1.0.0 KDS_TL_1_1.0.0

Table 1.

Test Incident Number	TIR_00_001
Summary	
User's status is not displayed for 'normal' BMI after calculation	
Date and Time Incident	25/06/2022
Context	KatoDiet System (KDS_1.1)
Description of incident	
Test Procedure	(Incident applies to all 'normal' BMI status)
Test Data	None

Project Title : KatoDiet System Independence Verification and Validation		KatoDiet Testing Company
Date: 3/7/2022	Test Plan ID: KDS TIR	

Expected Result	BMI status for user will be displayed
Actual Result	Error message for inserted wrong input
Unexpected outcome	None
Procedure to reproduce the incident	1. Inserted the weight and height to get the ‘normal’ BMI status
Test Environment	Google Chrome Web Browser
Attempt to Repeat	None
Tester’s Name	Mr Qayyum
Observer’s Name (witness)	Ms Syahirah
Status of Incident	
▣ **Open** ▢ **Assigned for resolution** ▢ **Retested with the fix confirmed** ▢ **Approved for resolution** ▢ **Fixed**	
Impact	
▢ **Mission Critical: Application will not function or system fails** ▣ **Major: Severe problems but possible to work around**	

▢ **Minor: Does not impact the functionality or usability of the process is not according to requirements/design specifications**
Priority
▣ **Immediate: Must be fixed as soon as possible** ▢ **Delayed: System is unstable but the incident must be fixed prior to next level test of shipment** ▢ **Deferred: Defect can be left in if necessary due to time or costs**
Description of the Corrective Action
To discuss with the developer on fixing the code. The developer should fix the defect by writing the proper range in the ‘normal’ BMI status condition

Table 2.

Test Incident Number	TIR_00_002
Summary	
Error message does not display when inserted height <= 100 for BMI calculation	
Date and Time Incident	25/06/2022
Context	KatoDiet System (KDS_1.1)
Description of incident	
Test Procedure	The height inserted equal to 100
Test Data	None
Expected Result	Error message will be displayed
Actual Result	Users BMI are calculated. Their BMI status is displayed
Unexpected outcome	None
Procedure to reproduce the incident	1. Insert 100 in weight text field
Test Environment	Google Chrome Web Browser

Project Title : KatoDiet System Independence Verification and Validation		KatoDiet Testing Company
Date: 3/7/2022	Test Plan ID: KDS TIR	

Attempt to Repeat	None
Tester's Name	Mr Rusyaidi
Observer's Name (witness)	Mr Zaimi and Ms Julia
Status of Incident	
▣ **Open** ▢ **Assigned for resolution** ▢ **Retested with the fix confirmed** ▢ **Approved for resolution** ▢ **Fixed**	
Impact	
▢ **Mission Critical: Application will not function or system fails** ▣ **Major: Severe problems but possible to work around** ▢ **Minor: Does not impact the functionality or usability of the process is not according to requirements/design specifications**	
Priority	
▣ **Immediate: Must be fixed as soon as possible** ▢ **Delayed: System is unstable but the incident must be fixed prior to next level test of shipment**	

▢ **Deferred: Defect can be left in if necessary due to time or costs**
Description of the Corrective Action
To discuss with the developer on fixing the code. The developer should fix the defect by writing remove the = symbol in the if statement for height so that heights 100 and below will not be counted. If (height > 100 && height < 300)

Table 3.

TAB 8

TEST REPORT SUMMARY

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Test Summary Report

KatoDiet System (KDS)
Independence Verification and Validation

Version: 1.0.0
Date: 03/07/ 2022

Document Control

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Document Name	KatoDiet System Test Summary Report
Reference Number	KDS_TSR
Version	1.0.0
Project Code	KDS
Status	In-use
Date Released	03/07/2022

Name	Position	Signature
Prepared By: Mr Ahmad Rusyaidi	Test Manager KatoDiet Testing Company	
Reviewed By: Dr Salmi Baharom	Quality Assurance Team KatoDiet Testing Company	
Approved By: Dr Salmi Baharom	Operation Manager KatoDiet Testing Company	
Approved By: Dr Salmi Baharom	Project Manager KatoDiet	

Version History

Version	Release Date	Section	Amendment
1.0.0	03/07/2022	All	Original document

Distribution List

Version	Release Date	Controlled Copy No	Recipient Name	Department	Issue Date	Return Date
1.0.0	03/07/2022	01	Dr Salmi Baharom	Department of Software Engineering		

Project Title : KatoDiet System Independence Verification and Validation		KatoDiet Testing Company
Date: XX/XX/2022	Test Plan ID: KDS TSR 1.0.0	

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1. General Information

General Information			
Test Report Description	This Test Summary Report will provide a summary of the findings based on the Test Log and the Test Incident Report		
Version Author	Mr Qayyum	Contact Number	-
Associated test plan reference	KDS_TP_1.0.0		

Table 1.

2. Test Status Report Summary

Summary		
Test Status Report Summary		
The Status of the test are as follow:		
Number of Test Cases Planned to be completed	Number of Test Cases Remaining to be Executed	Number of Test Cases Completed

75	0		75	
Current status of the test Incident Report is as follow:				
New (new incident introduced in current iteration)	Open (incident discovered from the previous iteration that still pending to be resolved)	Reject (the incident that were rejected after investigation because it cannot be categorised as an incident)	Resolved (incidents that have been confirmed resolved)	Deferred (incidents that have been deferred. Incidents are confirmed to be fixed for the next release version)
Number of New incidents = 3	Number of Open incidents = 0	Number of Rejected incidents = 0	Number of Resolved incidents = 0	Number of deferred incidents = 3
Note: The number of incidents is counted based on the number of Test Incident ID and not based from the Test Incident Report ID 5 incidents have been deferred temporarily and are planned to be fixed in the next version, prior to product release are as below:				

Incident ID	Short Description	Status
TIR_00_001	User’s status is not displayed for ‘normal’ bmi after calculation	Unresolved
TIR_00_002	Error message does not display when insert height <= 100 for BMI calculation	Unresolved

Document References

- KDS_TP_1.0.0
- KDS_TDS_1.0.0
- KDS_TCS_1.0.0
- KDS_TPS_1.0.0
- KDS_TL_1.0.0

- KDS_TIR_1.0.0

Changes from plans
There has been no change from plan and the test has completed successfully. Refer to the schedule attached below.
Comprehensiveness Assessment
All 2 incidents have been deferred. The incidents were caused by logic error and are planned to be corrected by the development team. For the schedule adherence, refer to the diagram below:
Testing Schedule

	Actual
	Planned
21/6/2022	27/6/2022

For the Test Coverage completeness refer to the table below:

Test Documents	% completed	Date of completion
Test Plan	100	20/4/2022
Test Design Specification	100	5/7/2022
Test Case Specification	100	20/6/2022

Test Procedure Specification	100	20/6/2022
Test Log	100	29/6/2022
Test Incident Report	100	29/6/2022

Table 2.

The Test Case coverage is shown below:

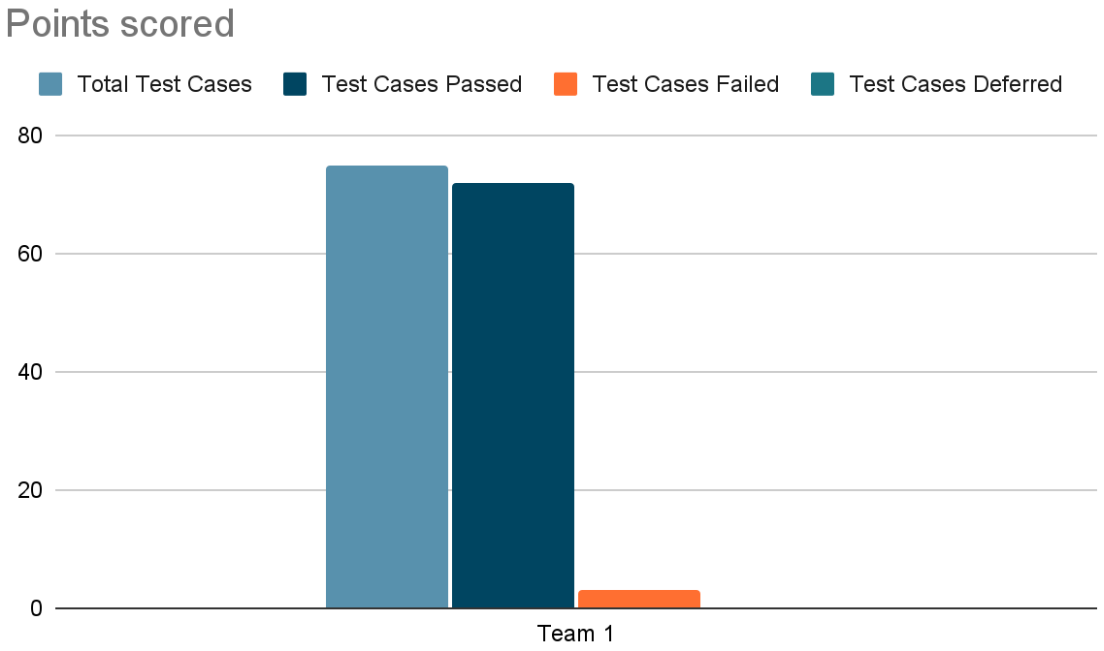

Figure 1.

Below are the lists of defects found through testing, by severity.

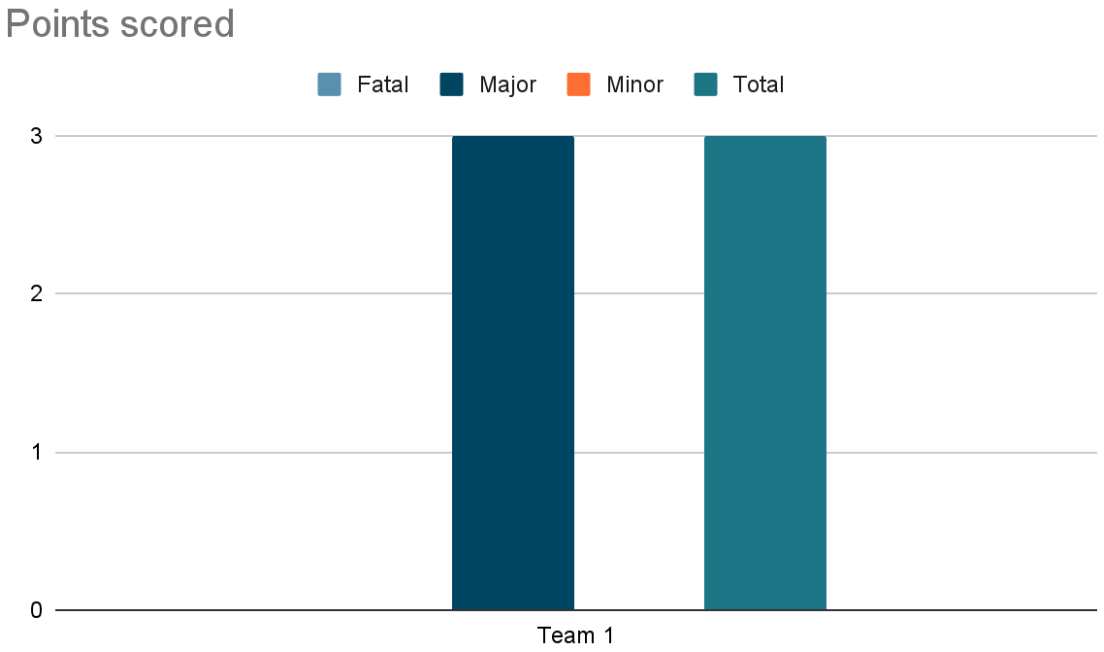

Figure 2.

Note:

- Incident having “Mission Critical” impact = Fatal Defect
- Incident having “Major” impact = Major defect
- Incident having “Minor” impact = Minor defect

3. Result Summary

Result Summary
The item tested was the Calculate Calories Intake, Calculate Calories Burn and Calculate BMI features in KDS 1.0. The tests were conducted by using the JUnit tool to test the source code of the KatoDiet System. 75 test cases have been planned and executed. Only 4% of the test cases were recorded with incidents. 3 major incidents found in this iteration contain suggestive corrections to the developer. The product will be re-tested after defects have been fixed to ensure that all defects have been addressed. If there is no new incident raised, it is expected that the product has conformed to the SRS document, version 1.0 dated XX/XX/2022 issued by the KatoDiet Company.
Rationale for Decisions
The testing team suggests that the 3 major problems should be fixed before deployment due to right now the current product is high product risk.
Conclusion and Recommendation Based on Test Result
Conclusion: The current version of the product is not fit for release until defects are fixed. Recommendation: A more thorough logic check on the system may lessen similar defects in the future.

Table 3.

TAB 9

GROUP DISCUSSION LOG & PEER REVIEW ASSESSMENT

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GROUP PROJECT DISCUSSION

Group Name:	**KATODIET TESTING COMPANY**	
Group Member:	1. AHMAD RUSYAIDI BIN DA'RAZAKI	
	2. JULIA NURFADHILAH BINTI MOHAMAD FAUZI	
	3. NOOR SYAHIRAH BINTI MOHD SABRI	
	4. MUHAMAD ZAIMI BIN MOHAMED ZAIN	
	5. ABDUL QAYYUM BIN RAMLAN	
Project Title:	**WEIGHT LOSS TRACKER (KATODIET)**	
Group Activity:	**Actual Date**	**Description**
Week 02	4/4/2022	The selection of software under test (SUT)
Week 04	13/4/2022	Test Plan
Week 06	20/4/2022	Test Design Specification
Week 08	7/5/2022	Test Case and Test Procedure
Week 10	20/6/2022	Test Execution
Week 12	27/6/2022	Test Report

RUBRIC FOR GROUP DISCUSSION

Criteria	0-1 points	2-3 points	4-5 points
Cooperation	Did not take any responsibility	Assumed responsibility when tasked by the group or group leader	Took initiative to improve the project work. Actively listened to and valued the opinions of others
Contribution	Did not contribute to the completion of the project	Contributed to the completion of the project with adequate quality work	Contributed to the completion of the project and submitted high-quality work
Participation	Did not participate in the group discussions	Participated in several of the group discussions	Consistently participated in the group discussions

SSE3305 Software Testing
Project Team Peer Assessment

WEEK 02: <u>THE SELECTION OF SOFTWARE UNDER TEST (SUT)</u>

For each member, please assign a grade of 0-5 (See rubrics for guidance) or **ABSENT**.

Team Member:	Team Member 1	Team Member 2	Team Member 3	Team Member 4	Team Member 5
Student's initiative and reliability in taking responsibility	5	5	5	5	5
Student's contribution to the completion of the project	5	5	5	5	5
Student's participation in group discussions and in generating ideas	5	5	5	5	5
Overall assessment of team member	5	5	5	5	5
Additional comments:	-	-	-	-	-

SSE3305 Software Testing
Project Team Peer Assessment

WEEK 04:TEST PLAN

For each member, please assign a grade of 0-5 (See rubrics for guidance) or **ABSENT**.

Team Member:	Team Member 1	Team Member 2	Team Member 3	Team Member 4	Team Member 5
Student's initiative and reliability in taking responsibility	5	5	5	5	5
Student's contribution to the completion of the project	5	5	5	5	5
Student's participation in group discussions and in generating ideas	5	5	5	5	5
Overall assessment of team member	5	5	5	5	5
Additional comments:	-	-	-	-	-

SSE3305 Software Testing
Project Team Peer Assessment

WEEK 06: <u>TEST DESIGN SPECIFICATION</u>

For each member, please assign a grade of 0-5 (See rubrics for guidance) or **ABSENT**.

Team Member:	Team Member 1	Team Member 2	Team Member 3	Team Member 4	Team Member 5
Student's initiative and reliability in taking responsibility	5	5	5	5	5
Student's contribution to the completion of the project	5	5	5	5	5
Student's participation in group discussions and in generating ideas	5	5	5	5	5
Overall assessment of team member	5	5	5	5	5
Additional comments:	-	-	-	-	-

SSE3305 Software Testing
Project Team Peer Assessment

WEEK 08: <u>TEST CASE AND TEST PROCEDURE</u>

For each member, please assign a grade of 0-5 (See rubrics for guidance) or **ABSENT**.

Team Member:	Team Member 1	Team Member 2	Team Member 3	Team Member 4	Team Member 5
Student's initiative and reliability in taking responsibility	5	5	5	5	5
Student's contribution to the completion of the project	5	5	5	5	5
Student's participation in group discussions and in generating ideas	5	5	5	5	5
Overall assessment of team member	5	5	5	5	5
Additional comments:	-	-	-	-	-

SSE3305 Software Testing
Project Team Peer Assessment

WEEK 10: TEST EXECUTIONTEST EXECUTION

For each member, please assign a grade of 0-5 (See rubrics for guidance) or **ABSENT**.

Team Member:	Team Member 1	Team Member 2	Team Member 3	Team Member 4	Team Member 5
Student's initiative and reliability in taking responsibility	5	5	5	5	5
Student's contribution to the completion of the project	5	5	5	5	5
Student's participation in group discussions and in generating ideas	5	5	5	5	5
Overall assessment of team member	5	5	5	5	5
Additional comments:	-	-	-	-	-

SSE3305 Software Testing
Project Team Peer Assessment

WEEK 12: <u>TEST REPORT</u>

For each member, please assign a grade of 0-5 (See rubrics for guidance) or **ABSENT**.

Team Member:	Team Member 1	Team Member 2	Team Member 3	Team Member 4	Team Member 5
Student's initiative and reliability in taking responsibility	5	5	5	5	5
Student's contribution to the completion of the project	5	5	5	5	5
Student's participation in group discussions and in generating ideas	5	5	5	5	5
Overall assessment of team member	5	5	5	5	5
Additional comments:	-	-	-	-	-

TAB 10

TESTING METHOD CLASS

1.0 Testing Method Class

A JUnit test is a method contained in a class which is only used for testing. The test class that consists of test methods are uploaded to GoogleDrive using the following link.

https://drive.google.com/drive/folders/1keeIN80Nt-gqGUlgkqcNsz2PW8XNqm4u?usp=sharing