



Model Part					
Test Plan	Test Input	Expect Output			
Class Item					
Test Item Constructor	*coordList is the List<Integer> only contain 2 values				
create an Item object with correct parameters	Item("Crepe Pan", coordList, 3)	Player object created			
create an Item object with incorrect parameters (wrong types of parameter or wrong numbers of parameters)	Item("Crepe Pan", 8, 3, 3) or Item("Crepe Pan", "8", 3)	throws IllegalArgumentException			
create an Item object with coordList size not equal to 2	Item("Crepe Pan", coordListSizeOne, 3)	throws IllegalArgumentException			
Test getItemName(): String					
It should return the name of the item as String	nothing, as long as our object is created properly (Item("Crepe Pan", coordList, 3))	Crepe Pan			
Test getMurderValue(): int					
It should return the value of the item as an interger number	nothing, as long as our object is created properly (Item("Crepe Pan", coordList, 3))	3			
Test getLocation(): List<int>					
It should return the xy coordinate as an int array with only 2 elements	nothing, as long as our object is created properly (Item("Crepe Pan", coordList, 3))	coordList, the first element is 8 and second element is 3			
Class Room					
	*locationList is List<Integer> with 4 elements, ItemList is List<Item>, neighborList and visibleList are List<Room>				
Test Room Constructor					
create a room object with correct parameters	room("Armory", 15, locationList, ItemList, neighborList, visibleList)	Room object created			
create a room object with incorrect parameters (wrong types of parameter or wrong numbers of parameters)	room("Armory", 15, 1,2,3,4, ItemList, neighborList, visibleList) or room("Armory", 15, locationList, ItemList, "Piazza", visibleList)	throws IllegalArgumentException			
create a room object with incorrect size of locationList (the list size is not 4)	room("Armory", 15, locationListSizeFive, ItemList, neighborList, visibleList)	throws IllegalArgumentException			
Test getRoomName(): String					
It should return the name of the room as String	nothing, as long as our object is created properly room("Armory", 15, locationList, ItemList, neighborList, visibleList)	Armory			
Test getNeighbor(): List<Room>					
It should return the List of the Room objects	nothing, as long as our object is created properly room("Armory", 15, locationList, ItemList, neighborList, visibleList)	List<Room>			
Test getItem(): List<Item>					
It should return the List of the Item objects	nothing, as long as our object is created properly room("Armory", 15, locationList, ItemList, neighborList, visibleList)	List<Item>			
Test isAdjacent(room: Room): boolean					
it should check is the parameter an element of the field neighbor, if it is, return True.	Piazza	False			
Pass incorrect type of parameter is not allowed or not only one input parameter	"Piazza" or (empty)	throws IllegalArgumentException			
Test isVisibleFrom(room: Room): boolean					
it should check is the parameter an element of the field visibleFrom, if it is, return True.	Piazza	True			
Pass incorrect type of parameter is not allowed or not only one input parameter	"Piazza" or (empty)	throws IllegalArgumentException			
Test getNeighborNames(): String					
it should return all neighbors of this Room object	(For Armory)Nothing	Drawing Room, Liliard Room, Dining Hall			
Test getRoomID(): int					
it should return the roomID of this room, which coreesponds to the sequence in which the room appear in the input file	(For Armory)Nothing	0			
Test getInfo(): String					

It should return all detail of selected room. Including Room ID, Room Name, Neighbors of this room, Visible from this room, Items in this room	(For Armory)Nothing	Room Name: Armory Room ID: 0 Coordinates: [22, 19, 23, 26] Neighbors: Billiard Room, Dining Hall, Drawing Room Visible From: Billiard Room, Dining Hall, Drawing Room, Library, Master Suite, Nursery, Tennessee Room, Trophy Room, Wine Cellar Items: Revolver			
Test getCoordinates(): int[] It should return the four number when we construct room to represent the location of selected room	(For Armory)Nothing	[22, 19, 23, 26]			
Test addItem(Item item): void It should add the item into the selected room Wrong type object(not item)	(Item) Revolver String Revolver	Nothing will return, but revolver will be added into the room's item list throws IllegalArgumentException			
Test addNeighbor(Room room): void Add the room into the neighbor list of selected Room Wrong type of parameter, not room Object	(Room) Dining Hall (Item) Revolver	Nothing will return, but Dining Hall will be added in to neighbor list of Armory throws IllegalArgumentException			
Test addVisibleFromRoom(Room room): void Add the room into the visible list of selected Room Wrong type of parameter, not room Object	(Room) Dining Hall (Item) Dining Hall	Nothing will return, but Dining Hall will be added in to visible list of Armory throws IllegalArgumentException			
Test canSeeFrom(Room otherRoom): boolean Use coordinates and world information to check if two rooms are neighbor or not. This will be checked during initialization of world. Wrong type of parameter, not room Object	(Room) Dining Hall (Item) Dining Hall	TRUE throws IllegalArgumentException			
Test areNeighbors(Room room): boolean Use coordinates and world information to check if two rooms are visible or not. This will be checked during initialization of world. Wrong type of parameter, not room Object	(Room) Dining Hall (Item) Dining Hall	TRUE throws IllegalArgumentException			
Test getVisibleFrom():List<Room> Return the list of rooms from the selected room	(For Armory)Nothing	List<Room>			
Class Player Test Player Constructor create a Player object with correct parameters create a Player object with incorrect parameters (wrong types of parameter or wrong numbers of parameters)	Player("Eric", Piazza) Player("Eric", "Piazza")	Player object created throws IllegalArgumentException			
Test getCharacterName(): String It should return the name of the Player as String	nothing, as long as our object is created properly (Player("Eric", Piazza))	Eric			
Test getLocation(): Room It should return the Room object the Player object locates at	nothing, as long as our object is created properly (Player("Eric", Piazza))	Room object Piazza			
Test move(room Room):void It should move the player to the designated room Pass incorrect numbers of parameter(not 1) or incorrect types of parameter(not Room) is not allowed Pass the room is not adjacent to the room the player locates at is not allowed	Foyer "Foyer" or (empty) Library	Nothing should return, but can check with the getLocation to show Room object Foyer throws IllegalArgumentException throws IllegalArgumentException			
Test murder(target Target, damage: int):void It should try to kill the target by reducing target's health point by certain amount Pass incorrect numbers of parameter(not 2) or incorrect types of parameter(not Target) is not allowed Pass the damage number below 1 is not allowed	Doctor Lucky, 5 Doctor Lucky, 5, 5 or Doctor Lucky, "5" Doctor Luckily, 0	Nothing should return, but it should reduce target's hp by the item's murderValue by using setTargetHP(), can check with getTargetHP() throws IllegalArgumentException throws IllegalArgumentException			

Test getCharacterInfo(): String					
It should return the character info of the player.	Nothing	Player Name: Luke Skywalker Current Location: Master Suite Item: Light Saber			
Test getItem(): List<Item>					
It should return the item this player has in a list	Nothing	[light saber, light gun]			
Test pickItem(item: Item): void					
It should allow player to pick one of items in the room the player is currently in	Item Object	Nothing, but this item should be added into the player's item list, and remove from item list of the room			
Wrong type of parameter cannot be passed	Room object	throws IllegalArgumentException			
The item is not in the itemList of the room that the player is currently in cannot be picked	Item Nuclear Weapon	throws IllegalArgumentException			
Test lookAround():String					
It should return all information of all the room that are neighbors of the room where the player stays at	Nothing	It should include room name, statues of player or target who are in that room, the items in that room of all neighbors of the rooms where the player stay at			
Test getPlayerId():int					
It should return the id of the selected player	Nothing	997			
Class Target					
Test Target Constructor					
create a Target object with correct parameters	Target("Doctor Lucky", Piazza, 10)	Target object created			
create a Target object with incorrect parameters (wrong types of parameter or wrong numbers of parameters)	Target("Doctor Lucky", Piazza)	throws IllegalArgumentException			
create a Target object with non-positive hp to start with (hP < 1)	Target("Doctor Lucky", Piazza, 0)	throws IllegalArgumentException			
Test getCharacterName(): String					
It should return the name of the Target as String	nothing, as long as our object is created properly (Target("Doctor Lucky", Piazza, 10))	Doctor Lucky			
Test getLocation(): Room					
It should return the Room object the Target object locate at	nothing, as long as our object is created properly (Target("Doctor Lucky", Piazza, 10))	Piazza			
Test move(room Room):void					
It should move the target to the destined room	Foyer	Nothing should return, but can check with the getLocation to show Room object Foyer			
Pass incorrect numbers of parameter(not 1) or incorrect types of parameter(not Room) is not allowed	"Foyer" or (empty)	throws IllegalArgumentException			
Test getsetHealthPoint(): int					
It should return the number as an integer	nothing, as long as our object is created properly (Target("Doctor Lucky", Piazza, 10))	10			
Test setHealthPoint(hp: int): void					
It should set the target hp to desired amount	20	nothing will return, but the hp should set to 20, we can check it with getHP			
Pass incorrect numbers of parameter(not 1) or incorrect types of parameter(not int) is not allowed	15, 20 or "20"	throws IllegalArgumentException			
Test getCharacterInfo(): String					
It should return the character info of the target.	Nothing	Target Name: Doctor Lucky Health Points: 50 Current Location: Master Suite			
Abstract Class AbstractCharacter					
Test getLocation(): Room					
It should return the Room object the character object locate at	Nothing	Room Object			
Test getCharacterName(): String					
It should return the name of the character as String	Nothing	Doctor Lucky			

Test getCharacterInfo(): String					
This should be Overrided in the classes are implemented from this abstract class	Nothing	Should just return string "character name" here, but should be implemented again in sub-class			
Test move(room: Room): void					
It should move the character to the destined room	Foyer	Nothing should return, but can check with the getLocation to show Room object Foyer			
Pass incorrect numbers of parameter(not 1) or incorrect types of parameter(not Room) is not allowed	"Foyer" or (empty)	throws IllegalArgumentException			
Class World					
Test World Constructor					
correct input file	the valid txt file (mansion.txt)	contructor parses			
invalid input file	some other type file, or incorrect txt file (mansion.jpg)	throws IllegalArgumentException			
invalid input path	wrong file path	throws FileNotFoundException			
Test getWorldText()					
return our world structure in the txt file as String	none, as long the txt file is valid for our constructor	return everything inside our txt file as string			
Test getRoomCount()					
numbers of room in valid txt file is the same as the the number after the target in txt file	none, as long the txt file is valid for our constructor	return the correctly total number of room in the structure (21)			
numbers of room in valid txt file is the different as the number after the target in txt file	none, as long the txt file is valid with unmatchable information for our constructor (we have 21 lines of rooms but the number after target is 20)	throws IllegalArgumentException			
Test getItemCount()					
numbers of room in valid txt file is the same as the the number after the last room in txt file	none, as long the txt file is valid for our constructor	return the correctly total number of items in the structure (20)			
numbers of room in valid txt file is the different as the the number after the last room in txt file	none, as long the txt file is valid for our constructor with unmatchable information (we have 20 lines of items but the number after target is 21)	throws IllegalArgumentException			
numbers of room should be greater than 1	none, as long the txt file is valid for our constructor with incorrect information (we only have 1 or less room, and the room count is 1 or less)	throws IllegalArgumentException			
Test getTarget()					
should return the correct target name and the target should be Doctor Lucky	none, as long the txt file is valid for our constructor	Doctor Lucky			
anything for the target except String Doctor Lucky is not allowed	none, as long the txt file is valid for our constructor with incorrect information (something like 50 Lucky Doctor)	throws IllegalArgumentException			
Test getWorldText():String					
It should return the current status of the board.	Nothing	World Name: Doctor Lucky's Mansion World Dimensions: 30x36 Number of Rooms: 21 Number of Items: 20			
Test toString(): String					
It should return a short description of the world	Nothing	The board is mansion!			
Test createItem(String name, int location, int murderValue): Item					
It should create an item into the room with the location roomId	"light saber", 0, 100	Item object			
Passing wrong type of parameter should throw an exception	"light saber", Room armory, 100	throws IllegalArgumentException			
Test createTarget(String name, Room room, int health): Target					
It should create an target into the room we passed	"Dr Lucky", Room armory, 50	Target Object			
Passing wrong type of parameter should throw an exception	"Dr Lucky", 3, 50	throws IllegalArgumentException			
Test createRoom(String roomName, int roomId, int[] coordinates, List<String[]> allRoomData): Room					
It should create an room object in the location we designed into the world	armory, 0, [0,1,0,1], List<string[]>	Room Object			
Passing wrong type of parameter should throw an exception	armory, 0, 0,1,0,1, List<string[]>	throws IllegalArgumentException			
Test setWorldText(): void					
It should update the world text since the world is changing	Nothing	Nothing, but the world text should be updated			

Test getRooms(): List<Room>					
It should return the List of Room object	Nothing	List of room object			
Test getItems(): List<Item>					
It should return the List of Item object	Nothing	List of Item object			
Test getRoomData(): List<String[]>					
It should return the all room data we write when we read the set up file	Nothing	List<String[]>			
Test getRoomData(): List<String[]>					
It should return the all item data we write when we read the set up file	Nothing	List<String[]>			
Test moveTargetToRoom(String roomName): void					
It should move the target object into the room we selected	"Armory"	Nothing, but target object should be putted into room armory			
Passing wrong type of parameter should throw an exception	Room armory	throws IllegalArgumentException			
The room name is not in the room list of the world is created	"Mars"	throws IllegalArgumentException			
Test moveTargetToNextRoom(): void					
it should move the target to the room with next roomId	Nothing	Nothing, but target should move to the next room order			
Controller Part					
PlayerInfo Class					
Test run(World): String					
It should return the info of selected player by calling getCharacterInfo() in model.	world model	The character info for player as a string			
Passing incorrect model should not allowed	null	throws IllegalArgumentException			
Test PlayerInfo(int playerId) constructor					
The command should create a constructor with proper field for run method later	PlayerInfo(playerId = 1)	The info of player 1 should be displayed after excute run() method			
Having a non exist player id in the field should not allowed	PlayerInfo(playerId = 1)	throws IllegalArgumentException			
Having a wrong type parameter should not allowed	PlayerInfo(playerId = "1")	throws IllegalArgumentException			
RoomInfo Class					
Test run(World): String					
It should return the info of selected Room by calling getInfo() in model. The room should be the room where the player at.	world model	The room info for selected room as a string			
Passing incorrect model should not allowed	null	throws IllegalArgumentException			
Test RoomInfo(int playerId=) constructor					
The command should create a constructor with proper field for run method later	RoomInfo(playerId = 1)	The info of room where the player 1 stays at should be displayed after excute run() method			
Having a non exist player id in the field should not allowed	RoomInfo(playerId = 999)	throws IllegalArgumentException			
Having a wrong type parameter should not allowed	RoomInfo(playerId = "1")	throws IllegalArgumentException			
Move Class					
Test Move (World): String					
It should allow player to move to selected room by calling	world model	Should return a string about a player is moved to certain room			
Passing incorrect model should not allowed	null	throws IllegalArgumentException			
Test Pick(int playerId, String itemName) constructor					
The command should create a constructor with proper field for run method later	Move(playerId = 1, roomName = "Dining Hall")	The player 1 should move to Dining Hall after excute run() method			
Having non exist player id or non exist room name in the field should not allowed	Move(playerId = 999, roomName = "Earth")	throws IllegalArgumentException			

Having a wrong type parameter should not allowed	Move(playerId = "1", roomName = "Dining Hall")	throws IllegalArgumentException			
Pick Class					
Test run(World): String					
It should allow player to pick up the selected item in a room.	world model	Should return a string about a player picks up certain item			
Passing incorrect model should not allowed	null	throws IllegalArgumentException			
Test Pick(int playerId, String itemName) constructor					
The command should create a constructor with proper field for run method later	Pick(playerId = 1, itemName = "Revolver")	The item resolver should be picked up for player 1 after excute run() method			
Having non exist player id or non exist item name in the field should not allowed	Pick(playerId = 999, itemName = "Saber")	throws IllegalArgumentException			
Having a wrong type parameter should not allowed	Pick(playerId = "1", roomName = "Dining Hall")	throws IllegalArgumentException			
CreateGraph Class					
Test run(World): String					
It should create the graph of current world and save it as png	world model	Should return a string says "Current graph is created".			
Passing incorrect model should not allowed	null	throws IllegalArgumentException			
CreatePlayer Class					
Test CreatePlayer(int playerId, String roomName, String: playerName) constructor					
The command should create a constructor with proper field for run method later	CreatePlayer(1, "Dining Hall", "Luke")	The player name Liuke should be created in Dining Hall after excute run() method			
Having non exist player id or non exist room name in the field should not allowed	CreatePlayer(999, "Dining Hall", "Luke")	throws IllegalArgumentException			
Passing incorrect model should not allowed	CreatePlayer(1, Room diningHall, "Luke")	throws IllegalArgumentException			
Test run(World): String					
It should create the player object by calling the createPlayer function within the world model. The	world model	Should return a string says "Current graph is created".			
Passing incorrect model should not allowed	null	throws IllegalArgumentException			
LookAround Class					
Test LookAround (int playerId) constructor					
The command should create a constructor with proper field for run method later	LookAround(1)	The player 1 should get nearby info after excute run() method			
Having non exist player id in the field should not allowed	LookAround(999)	throws IllegalArgumentException			
Passing incorrect model should not allowed	LookAround("1")	throws IllegalArgumentException			
Test run(World): String					
It should create the player object by calling the createPlayer function within the world model. The	world model	Should return a string says "Current graph is created".			
Passing incorrect model should not allowed	null	throws IllegalArgumentException			
Attack Class					
Test Attack(int playerId, String itemName) constructor					
The command should create a constructor with proper field for run method later	Attack(1, "Revolver")	The player 1 should attack target with weapon revolver after excute run() method			
Having non exist player id or non exist room name in the field should not allowed	Attack(-1, "Revolver")	throws IllegalArgumentException			
Passing incorrect model should not allowed	Attack(1, Item revolver)	throws IllegalArgumentException			
Test run(World): String					
It should create the player object by calling the createPlayer function within the world model. The	world model	Should return a string says "Current graph is created".			
Passing incorrect model should not allowed	null	throws IllegalArgumentException			