

# code.sprint<sup>MT</sup>

## TASK BOOKLET

- Final Round -

### Post-Secondary Category

2023

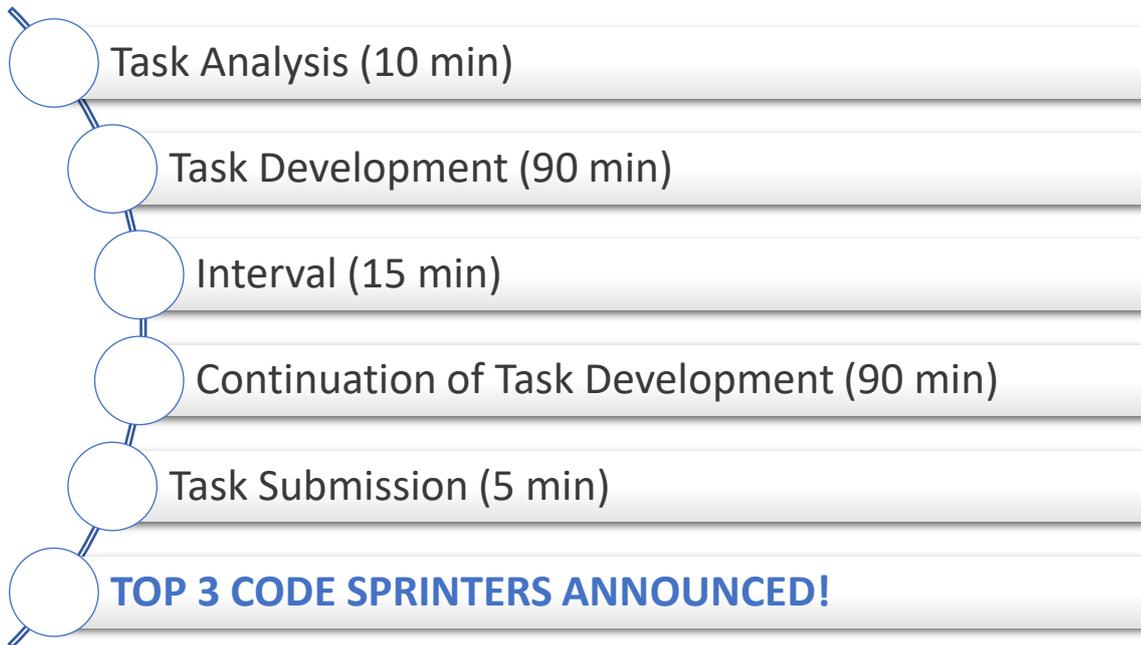


GOVERNMENT OF MALTA  
MINISTRY FOR EDUCATION, SPORT,  
YOUTH, RESEARCH AND INNOVATION  
DIRECTORATE FOR LEARNING AND ASSESSMENT PROGRAMMES





# Final Round Schedule



## Mysteries of Serendria: The Enchanted Manor (180 minutes)

Prepare to embark on an exciting project, a captivating text-based Role-Playing Game (RPG) that will challenge your coding skills and ignite your imagination. In this thrilling endeavour, you will have the opportunity to craft an immersive gaming experience set within the confines of a mysterious mansion. 'Mysteries of Serendria' inspires players to explore its intricate rooms, solve mind-bending puzzles, engage with intriguing characters, and unearth the hidden secrets of the enchanted realm.



Picture yourself standing in the grand main hall of a mysterious mansion, its walls pulsating with magic and mystery. Your mission? Unlock the portal to the 'Realm of Serendria', a parallel world brimming with untold adventures and mythical wonders. But beware, the path ahead is filled with challenges that will test your determination and unravel the depths of your intellect. As you embark on this coding journey, each room within the mansion presents an opportunity for your creativity to shine. From the eccentric kitchen, where a skilled chef guards a valuable item, to the enchanted garden, home to a mischievous gnome who delights in perplexing riddles, every room is packed with possibilities waiting to be brought to life.

Unveil the secrets concealed within the main bedroom, where a forgotten diary holds the secret for a sorcerer's culinary dish. Explore the enigmatic bathroom, where a mirror reveals a riddle guarding a hidden chamber that holds an artifact of great significance. Traverse the mystical garage, a treasure of relics and tools, including the ethereal 'Lumis Candle' that illuminates the path to the world of Serendria.

Harness the power of your coding talent to shape the mechanics, interactions, and narrative elements of this game. 'Mysteries of Serendria: The Enchanted Manor' awaits your touch of brilliance: a world of magic, mystery, and limitless possibilities is yours to create!

## Functionality #1: Mansion Floorplan

- Figure 1 below displays the floorplan which will be used to create the mansion. Screenshot 1 represents a sample screenshot of how the floorplan can be represented during gameplay.

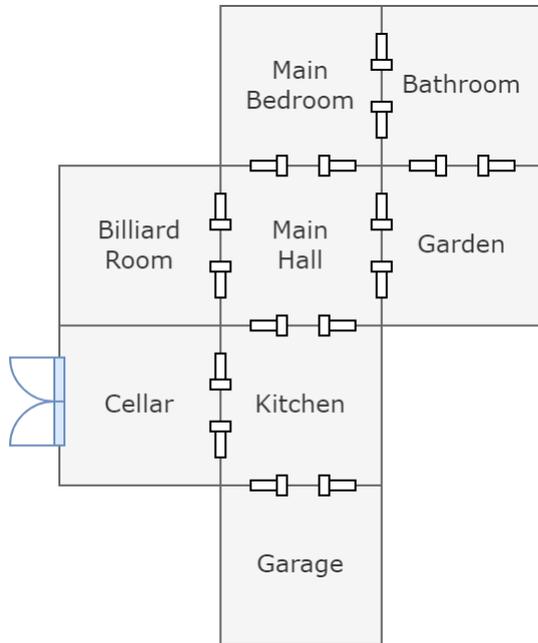
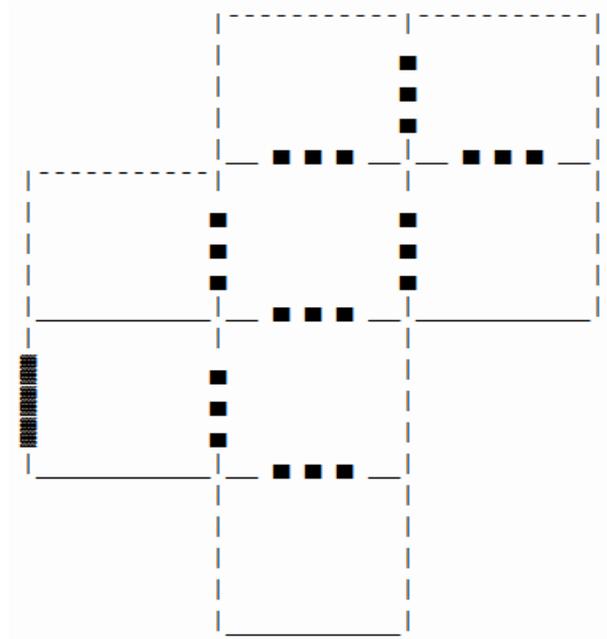


Figure 1: Mansion Floorplan



Screenshot 1: Floorplan sample screenshot

- Table 1 hereunder shows the exits for each room.

Room	Exits
Main Hall	North, South, East, West
Main Bedroom	South, East
Bathroom	South, West
Garden	North, West
Billiard Room	East
Cellar	West, East
Kitchen	North, South, West
Garage	North

Table 1: Rooms and Exits

- The door marked in blue, which is the west exit inside the cellar is the door that leads to the Mysteries of Serendria to win the game.

## Functionality #2: Game Mechanics

1. The player starts in the main hall.
2. The exit door to the Mysteries of Serendria is in the cellar.
3. The cellar is pitch black, and the door requires a key to be opened.
4. The player needs light to see inside the cellar.
5. In the kitchen, the player meets a chef who has the key to the garage.
6. The chef needs his diary, which contains a secret recipe.
7. The chef also needs fresh basil to complete his recipe.
8. In the garden, there is a mischievous gnome who loves riddles.
9. The gnome will provide basil to the player upon solving a riddle correctly.
10. In the bedroom, the player finds the chef's diary.
11. In the bathroom, there is a cryptic riddle written on the mirror. Solving the riddle reveals a hidden compartment with the key to the exit door to the Mysteries of Serendria.
12. In the garage, the player can find various items, amongst of which the candle is needed to see inside the cellar.
13. The billiard room contains several items that have no use in the game.
14. The user may only hold two (2) items at a time.
15. The items' location can be changed according to the game play. For example, if the player picks up a painting from the billiard room and drops it in the bedroom, the painting's location is now in the bedroom.
16. When a key is utilized, it unlocks the door, and the player retains possession of the key.

Table 2 provides a summary of the characters and items found in each room.

Room	Characters	Items
Main Hall	None	None
Main Bedroom	None	Diary that contains the secret recipe
Bathroom	None	Riddle on mirror unlocks the Mysteries of Serendria door
Garden	Gnome	Riddle unlocks Fresh Basil
Billiard Room	None	Three <b>random</b> items from the following: Billiard Stick, Chair, Chalk, Dartboard, & Painting
Cellar	None	None
Kitchen	Chef	'Garage Key' if chef is given the diary & fresh basil.
Garage	None	Candle, and other two <b>random</b> items from the following: Toolbox, Oil Can, Car Jack, Canister, & Car Manual

Table 2: Rooms, characters, and items

### Functionality #3: Navigating through the Rooms

1. The player should always start from the Main Hall.
2. Navigating through the rooms require moving around according to the floorplan. For example, if you are in the Main Hall, you have four exits: North to go to the Main Bedroom; South to go to the Kitchen; East to go to the Garden; and West to go to the Billiard Room.
3. All doors are unlocked except for the garage and the Mysteries of Serendria doors.

### Functionality #4: Game Commands.

To play the game, the player must input instructions as per table 3 below.

Command	Description
<b>GO</b>	The command GO followed by north, south, east, or west is used to move around the mansion. For e.g., "GO north" to proceed to a north exit.
<b>USE</b>	to use or give an item. For e.g., "USE garage key" to use the key to open the garage OR "Give diary" to give the diary to the chef.
<b>TAKE</b>	to collect an item. For e.g., TAKE basil to collect basil provided by the gnome or Take candle to collect the candle found in the garage.
<b>SAY</b>	to reply to characters or the mirror. For e.g., SAY hello
<b>DROP</b>	to drop a collected item. For e.g., DROP painting
<b>ITEMS</b>	to display the items that the player is currently holding.

Table 3: List of commands

### Functionality #5: Dialogue & Riddles

1. When the player enters the kitchen, they encounter a confused Chef who needs assistance in finding the sorcerer's culinary dish recipe and fresh basil.
2. If the player gives the chef the diary and basil, the Chef rewards them with a key to unlock the garage door.
3. Once the player has obtained the garage key, the Chef's dialogue in the kitchen should change to something mysterious rather than expressing confusion about the sorcerer's dish. A sample dialogue is shown in Table 4 below.
4. In the garden, the player encounters a Gnome who specializes in herbs. The gnome challenges the player with a riddle.
5. Randomly select one riddle for the Gnome from the options listed in Table 5 below.
6. The riddle displayed in the bathroom Mirror should also be chosen randomly from Table 6 below.

**Previous dialogue** (*when the player doesn't have the garage key*)

Chef: I'm so confused about how to finish the sorcerer's dish.  
Can you help me find the recipe and some fresh basil?

**Updated dialogue** (*when the player has the garage key*)

Chef: Ah, you've returned! I sense a newfound confidence within you. The secrets of the sorcerer's dish are slowly unravelling.

*Table 4: Change in dialogue*

**Riddle 1:**

"In the garden, I dance with grace,  
Petals swirling all over the place.  
I bloom in colours, vibrant and bright,  
A delicate beauty, a pure delight.  
What am I?"

Answer: Flower

**Riddle 2:**

"Deep in the garden, secrets lie,  
A creature with wings, soaring high.  
I shimmer and flutter, my colours ablaze,  
Bring me close and be amazed.  
What am I?"

Answer: Butterfly

**Riddle 3:**

"In the garden's depths, a mystery unfolds,  
A creature of legends, mighty and bold.  
With scales that shimmer, and a fiery breath,  
A guardian of treasures, from life to death.  
What am I?"

Answer: Dragon

*Table 5: Gnome Riddles*

**Riddle 1:**

I am always hungry, I must always be fed.

The finger I touch, will soon turn red.

What am I?

Answer: Fire

**Riddle 2:**

I speak without a mouth and hear without ears.

I have no body, but I come alive with wind.

What am I?

Answer: Echo

**Riddle 3:**

I am always coming, but never arrive.

What am I?

Answer: Tomorrow

*Table 6: Mirror Riddles*

**Functionality #6: Validation Processes**

1. Validation is required on the instructions inputted by the user.
2. Instructions are not case sensitive.
3. A warning message should be prompted for invalid instructions.
4. Validation is required so that the player cannot take fresh basil until the gnome riddle has been answered correctly.
5. Validation is required so that the player cannot take the key to the Wanders of Serendria until the bathroom mirror riddle has been answered correctly.
6. Validation is required to avoid any possible runtime error.

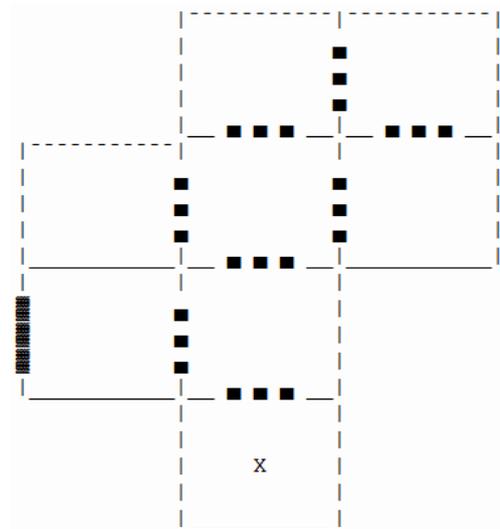
**Functionality #7: Game Interface.**

1. In a text-based game, the visual design holds a vital role in enhancing the overall player experience. While the gameplay primarily relies on text descriptions, the visual presentation can greatly contribute to immersing players in the game world.

The visual design should prioritize readability and clarity of the text, ensuring that players can easily comprehend the information presented. Use visual cues and formatting effectively to convey important information, guide players, and highlight key elements. By using techniques such as indentation and borders, the game interface can help organize and structure information, making it more visually appealing and user-friendly.

- When moving from one room to another, the text-based floorplan should be updated and displayed, such as the screenshot 2 on the right.
- The screen is cleared when moving from one room to another.

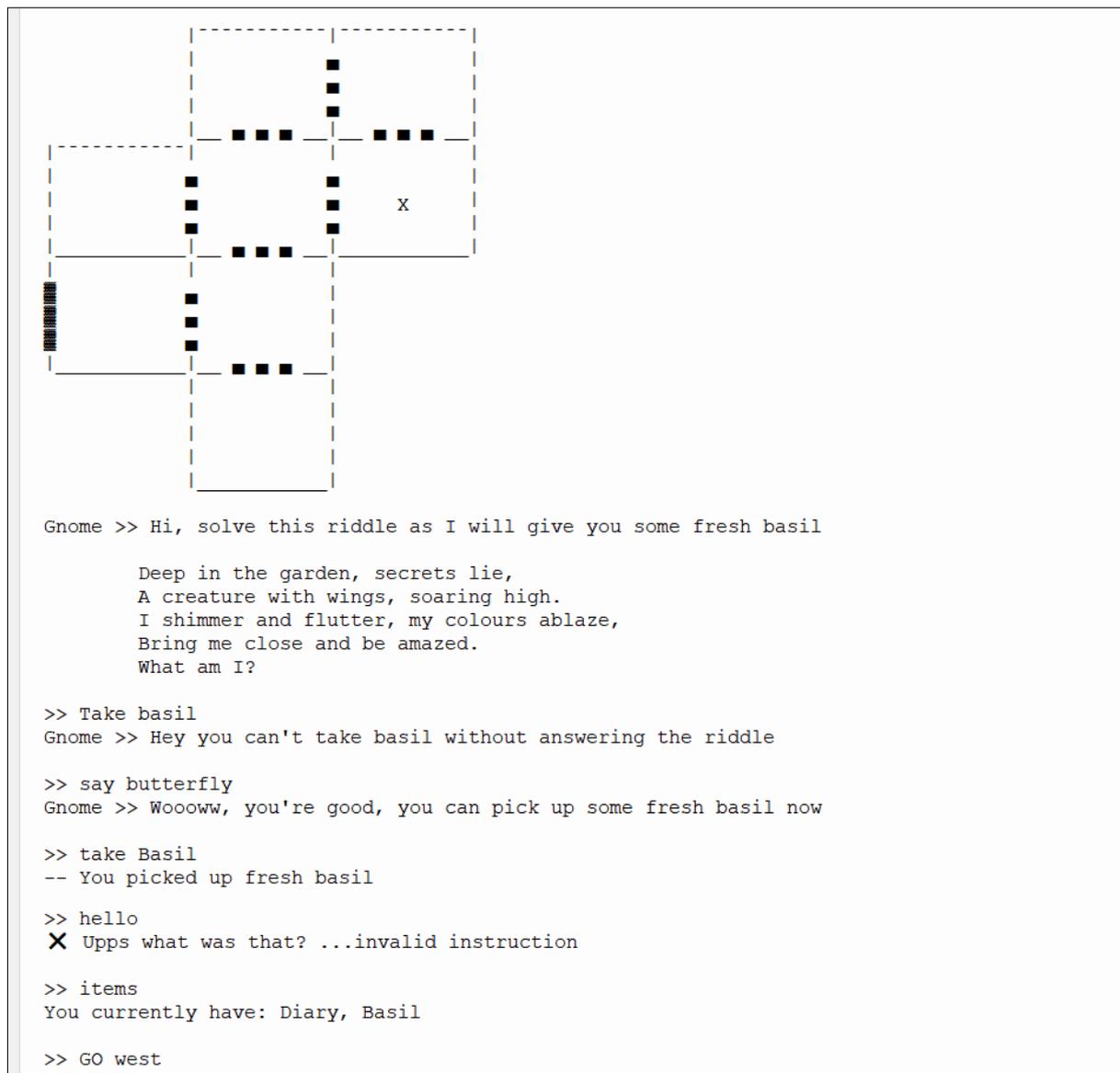
A sample user-interface of the game is shown in screenshot 3 below.



Screenshot 2: Floorplan sample screenshot showing that player is currently in the Garage.

Name the class containing the main method **RunApp**.

Submit your program in a folder named **World\_Of\_Serendria**



Screenshot 3: Sample User Interface

## Assessment Rubric

Program Functionality	User-Friendly Interface	Proper use of Comments	Proper Conventions (Camel case, meaningful var names etc.)	Name of Folder & Class/es	User Input	Suitable Prompts / Messages displayed
Update & Displaying Floorplan	Random Gnome Riddle	Random Mirror Riddle	Items' location changes according to gameplay	Proper use of data structures and/or files	<b>Maximum Score: 38</b> <b>+ 2 for every extra feature.</b>	
Validations					Modular Code	Code Efficiency
Instruction format	Instruction Case Sensitivity	Valid Room Exits	Player can only hold two items	Change in dialogue with Chef		
0 - Not Satisfactorily   1- Partly Satisfactorily   2- Entirely Satisfactorily						

