

# Sample language - 4 Sprints Pacman

Hufflepuff

June 19, 2024

## 1 SPRINT 1

```
1 // SPRINT 1
2 func sprint1Tasks -> List:Task {
3     params {}
4     return {
5         List:Task [
6             Task {
7                 title: "Development environment setup",
8                 description: "As a developer, I want to have all necessary tools like compilers, development
9                 ↪ environments, and version control systems installed.",
10                state: "DONE",
11                members: List:Member [Member {name: "Axel", role: "Developer"}],
12                tag: "Backend",
13                subTasks: List:Task []
14            },
15            Task {
16                title: "Initial maze design",
17                description: "As a user, I want to create a basic maze design using graphic design tools.",
18                state: "DONE",
19                members: List:Member [Member {name: "Diego", role: "Designer"}],
20                tag: "Frontend",
21                subTasks: List:Task []
22            }
23        ]
24    }
25
26 // Create task for Pacman movement
27 func taskMovementPacman -> Task {
28     params {
29         titleTask: StringParagraph
30     }
31     return {
32         Task {
```

```

33         title: titleTask,
34         description: "As a developer, I want to implement the basic movement of Pacman in the
↵ maze.",
35         state: "DONE",
36         members: List:Member [Member {name: "Luiggy", role: "Developer"}],
37         tag: "Backend",
38         subTasks: List:Task []
39     }
40 }
41 }
42
43 // Print task titles
44 func printTasksTitle -> StringIdSpace {
45     params { task: Task }
46     return {
47         task.title
48     }
49 }
50
51 // Check task status
52 func taskIsDone -> Bool {
53     params { myTask: Task }
54     return {
55         if (myTask.state == "DONE") then True
56         else False
57     }
58 }
59
60 // Function execution
61 do {
62     let isDone:Bool = taskIsDone(taskMovementPacman("Basic Pacman movement"))
63     print(isDone)
64     // Since do can only handle one function at a time, another example of execution is:
65     print(
66         map(sprint1Tasks, printTasksTitle)
67     )
68 }

```

## 2 SPRINT 2

```

1 // SPRINT 2
2 func sprint2Tasks -> List:Task {
3     params {}
4     return {

```

```

5 List:Task [
6   Task {
7     title: "Spike: Research ghost movement patterns",
8     description: "As a user, I want to define the movement patterns for each ghost based on
9       ↳ studies of previous Pac-Man versions and modern adaptations. Explore AI algorithms to
10      ↳ improve movement autonomy.",
11     state: "DONE",
12     members: List:Member [Member {name: "Santiago", role: "Developer"}],
13     tag: "Spike",
14     subTasks: List:Task [
15       Task {
16         title: "Experimenting with AI algorithms",
17         description: "As a user, I want to implement AI algorithm prototypes to simulate
18           ↳ autonomous and adaptive ghost movements.",
19         state: "DONE",
20         members: List:Member [Member {name: "Axel", role: "Developer"}],
21         tag: "Backend",
22         subTasks: List:Task []
23       }
24     ]
25   },
26   Task {
27     title: "Interaction mechanics",
28     description: "As a developer, I want the interaction mechanics between Pac-Man and the
29       ↳ ghosts, including losing lives when Pac-Man is touched and the ability to eat ghosts when
30       ↳ consuming power pellets.",
31     state: "DONE",
32     members: List:Member [Member {name: "Sebas", role: "Developer"}],
33     tag: "Backend",
34     subTasks: List:Task []
35   }
36 ]
37 }
38 }
39 }
40
41 // Create task for QA testing with pattern matching
42 func createTaskForTesting -> Task {
43   params {
44     titleTask: StringParagraph,
45     descriptionTask: StringParagraph,
46     stateTask: State,
47     tag: Tag
48   }
49   pattern {
50     case (_, _, _, "QA") {
51       Task {
52         title: titleTask,
53         description: descriptionTask,

```

```

48     state: stateTask,
49     members: List:Member [Member {name: "Luiggy", role: "Developer"}],
50     tag: tag,
51     subTasks: List:Task []
52 }
53 }
54 default {
55     Task {
56         title: "Task for testing",
57         description: "Task for testing",
58         state: "NoStatus",
59         members: List:Member [],
60         tag: "QA",
61         subTasks: List:Task []
62     }
63 }
64 }
65 }
66
67 // Function execution
68 do {
69     print(
70         createTaskForTesting(
71             "Initial testing of Pac-Man mechanics",
72             "As a developer, I want to conduct initial tests to ensure the implemented mechanics work
73             ↪ correctly in various scenarios and there are no logical errors regarding the implemented AI
74             ↪ logic.",
75             "ToDo",
76             "QA"
77         )
78     )
79 }

```

### 3 SPRINT 3

```

1 // SPRINT 3
2 func sprint3Tasks -> List:Task {
3     params {}
4     return {
5         List:Task [
6             Task {
7                 title: "Complete level design",
8                 description: "As a user, I want to finalize the design and implementation of all game
9                 ↪ levels.",

```

```

9         state: "DONE",
10         members: List:Member [Member {name: "Sebas", role: "Designer"}],
11         tag: "Frontend",
12         subTasks: List:Task []
13     },
14     Task {
15         title: "Basic UI implementation",
16         description: "As a developer, I want to have the user interface developed and completed,
17         ↪ including start screens, settings menus, and high score screens.",
18         state: "DONE",
19         members: List:Member [Member {name: "Luiggy", role: "Developer"}],
20         tag: "UI",
21         subTasks: List:Task []
22     }
23 ]
24 }
25
26 // Create task for QA testing
27 func createTaskForTesting -> Task {
28     params {
29         titleTask: StringParagraph,
30         descriptionTask: StringParagraph,
31         stateTask: State,
32         tag: Tag
33     }
34     return {
35         Task {
36             title: titleTask,
37             description: descriptionTask,
38             state: stateTask,
39             members: List:Member [Member {name: "Luiggy", role: "Developer"}],
40             tag: tag,
41             subTasks: List:Task []
42         }
43     }
44 }
45
46 // Verify if the task is for QA
47 func verifiedIfTaskIsForQA -> Bool {
48     params { myTask: Task }
49     return {
50         if (myTask.tag == "QA") then True
51         else False
52     }
53 }
54
55 // Function execution

```

```

56 do {
57     print(
58         verifiedIfTaskIsForQA(
59             createTaskForTesting(
60                 "UI and Level Testing",
61                 "As a developer, I want thorough tests to ensure levels are well designed and the UI works as
        ↳ expected on different platforms and resolutions.",
62                 "ToDo",
63                 "QA"
64             )
65         )
66     )
67 }

```

## 4 SPRINT 4

```

1 // SPRINT 4
2 func sprint4Tasks -> List:Task {
3     params {}
4     return {
5         List:Task [
6             Task {
7                 title: "Sound effects",
8                 description: "As a developer, I want to add sound effects for Pac-Man's actions and
        ↳ interactions with ghosts and special points.",
9                 state: "DONE",
10                members: List:Member [Member {name: "Santiago", role: "Developer"}],
11                tag: "Backend",
12                subTasks: List:Task [
13                    Task {
14                        title: "Sound effects creation",
15                        description: "As a developer, I want to design and develop specific sound effects for
        ↳ each game action.",
16                        state: "DONE",
17                        members: List:Member [Member {name: "Axel", role: "Developer"}],
18                        tag: "Backend",
19                        subTasks: List:Task []
20                    }
21                ]
22            },
23            Task {
24                title: "Sound integration testing",
25                description: "As a developer, I want to ensure sound effects and background music are
        ↳ correctly integrated with the game.",

```

```

26     state: "InProgress",
27     members: List:Member [Member {name: "Diego", role: "QA Tester"}],
28     tag: "QA",
29     subTasks: List:Task []
30 }
31 ]
32 }
33 }
34
35 // Create task for background music
36 func createTaskForBackgroundMusic -> Task {
37     params {
38         titleTask: StringParagraph,
39         descriptionTask: StringParagraph,
40         stateTask: State,
41         tag: Tag
42     }
43     return {
44         Task {
45             title: titleTask,
46             description: descriptionTask,
47             state: stateTask,
48             members: List:Member [Member {name: "Sebas", role: "Developer"}],
49             tag: tag,
50             subTasks: List:Task []
51         }
52     }
53 }
54
55 // Verify if the task is in progress
56 func verifiedIfTaskIsInProgress -> Bool {
57     params { myTask: Task }
58     return {
59         if (myTask.tag == "InProgress") then True
60         else False
61     }
62 }
63
64 // Function execution
65 do {
66     let someTitle:StringIdSpace = "some title"
67     let areTaskInProgress:Bool = verifiedIfTaskIsInProgress(
68         createTaskForBackgroundMusic(
69             someTitle,
70             "As a developer, I want to compose and adapt background music that enhances the gaming
71             ↪ experience without being intrusive.",
72             "InProgress",
73             "Backend"

```

```
73     )  
74 )  
75 print("Task Status: ")  
76 print(areTaskInProgress)  
77 }
```

---