# **Team Rigel**

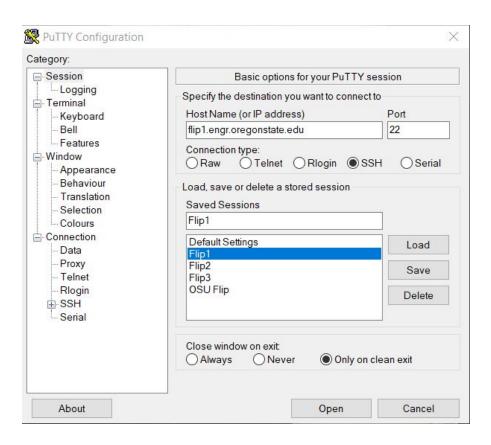
Tucker Walker Marisa Rea David Pipitone

# <Adventure Game> Game Guide

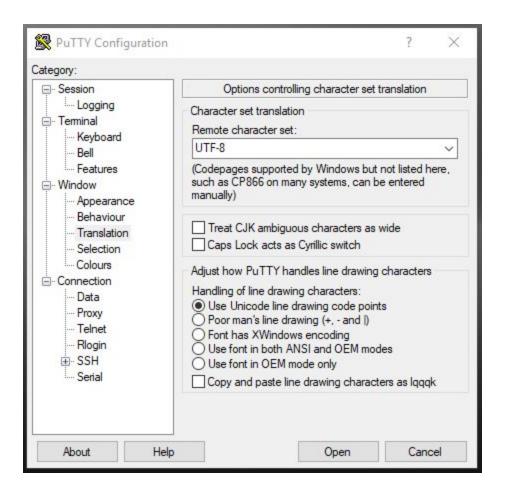
# **Running The Game**

<Adventure Game> runs in a Linux environment that has ncurses installed. The OSU environment has this library installed already. In order to run Adventure Game, ensure that you have access to this environment.

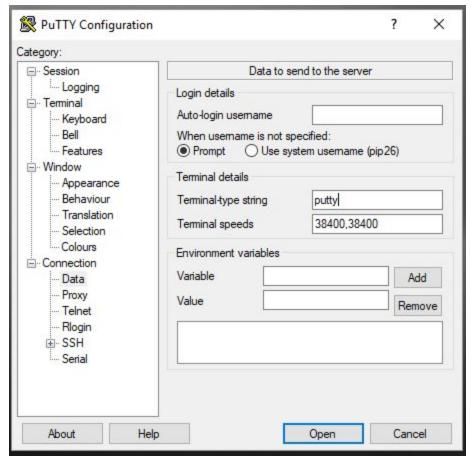
- 1. Set up your Terminal with PuTTY
  - a. Open PuTTY
  - b. set hostname to flip1.engr.oregonstate.edu and port to 22



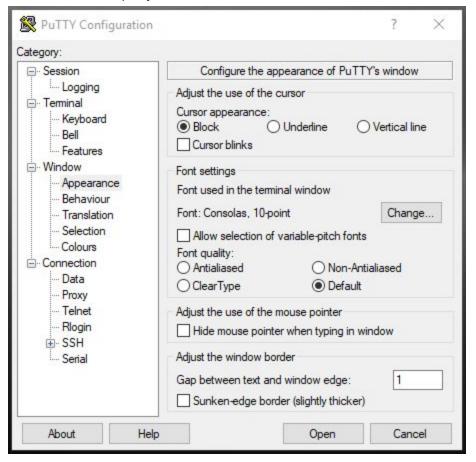
# c. Select Window->Translation and set Remote character set to UTF-8



d. Set Connection->Data->terminal-type string to putty



e. Set to consolas to putty's font



- f. Select Open
- g. Maximize the terminal window
- h. Log in

```
login as: walkertu
walkertu@flip1.engr.oregonstate.edu's password:
Last login: Wed Feb 13 20:29:49 2019 from 10.197.36.242

This system is strictly for use by faculty, students, and staff of
the College of Engineering, Oregon State University.

Unauthorized access is prohibited - violators will be prosecuted

Use should be consistent with the OSU Acceptable Use Policy
as well as College of Engineering policies and guidelines.

Refer to http://it.engineering.oregonstate.edu

Quotas are used for home directories, incoming email, and printing.
For details, check:
http://it.engineering.oregonstate.edu

If you have any problems with this machine, please mail support@engr.orst.edu

walkertu@flip1 ~ $
```

# Download <Adventure\_Game>

\*\* If you are installing <Adventure\_Game> from a downloaded Zip file with binaries included, you will not need to follow the instructions for downloading it. Instead, simply move the unzipped folder to your Linux environment and call the following on the folder:

chmod -R 777 <unzipped folder name>

- a. Navigate to the directory that you want to run <Adventure Game> inside of
- b. Type *git clone* <a href="https://github.com/TuckerDane/capstone.git">https://github.com/TuckerDane/capstone.git</a> and navigate into the capstone repository with *cd capstone*

```
walkertu@flip1 ~/example $ git clone https://github.com/TuckerDane/capstone.git
Cloning into 'capstone'...
remote: Enumerating objects: 105, done.
remote: Counting objects: 100% (105/105), done.
remote: Compressing objects: 100% (57/57), done.
remote: Total 1063 (delta 77), reused 58 (delta 48), pack-reused 958
Receiving objects: 100% (1063/1063), 280.52 KiB | 0 bytes/s, done.
Resolving deltas: 100% (579/579), done.
walkertu@flip1 ~/example $ cd capstone/
```

- c. If **<Adventure\_Game>** is downloaded as a zip file...
  - i. Unzip the file
  - ii. Run dos2unix <path\_to\_capstone\_repo>/capstone/run.sh
  - iii. Run chmod +x <path\_to\_capstone\_repo>/capstone/run.sh

# 3. Run < Adventure\_Game >

a. Type ./run.sh to begin building and playing <Adventure\_Game>

```
walkertu@flip1 ~/example/capstone (master) $ ./run.sh
File ./build/apps/adventure does not exist; building...
g++ -pedantic-errors -Wall -std=c++11 -g -Iinclude/game_objects/ -Iinclude/space_objects
g++ -pedantic-errors -Wall -std=c++11 -g -Iinclude/game_objects/ -Iinclude/space_objects
```

# **Running the Test Suite**

- 1. Complete steps 1 and 2 in the "Running the Game" section
- 2. Execute the command "cd tests" to navigate to the test folder
- 3. Execute the command "make all" to compile the test suite
- 4. To run the test suite, you may either run all tests, or only tests with specific tags
  - a. To run all tests, enter the command "./adventure\_tests"
  - b. To run a test on a specific tag, enter the command "./adventure\_tests [TAG\_NAME]" and input the name of the tag between the square brackets
- 5. Tests with failures will appear as seen below:

```
codingmarisa@DESKTOP-812UGC4: ~/capstone/tests (integration) ./adventure_tests

adventure_tests is a Catch v2.5.0 host application.
Run with -? for options

default constructor

src/player_test.cpp:4

src/player_test.cpp:15: FAILED:
    REQUIRE( p.getMaxCarryWeight() == 10 )
with expansion:
    25 == 10

set/get maxCarryWeight

src/player_test.cpp:18

src/player_test.cpp:21: FAILED:
    REQUIRE( p.getMaxCarryWeight() == 10 )
with expansion:
    25 == 10

set/get maxCarryWeight() == 10 )
with expansion:
    25 == 10
```

6. Tests without failures will appear as seen below:

# **Game Controls**

All controls are key based and not case sensitive. Thus, if you want to move up 'W' and 'w' are both valid inputs. For dropping an item both the semicolon and colon are valid inputs.

```
Move Up - W, up arrow

Move Down - S, down arrow

Move Left - A, left arrow

Move Right - D, right arrow

Pick Up - P

Drop - ; or:

Use Equipped Item - E

Opening Inventory - I

Highlight Inventory Item (Up) - W

Highlight Inventory Item (Up) - S

Equip Highlighted Item - E (while in the Inventory Window)
```

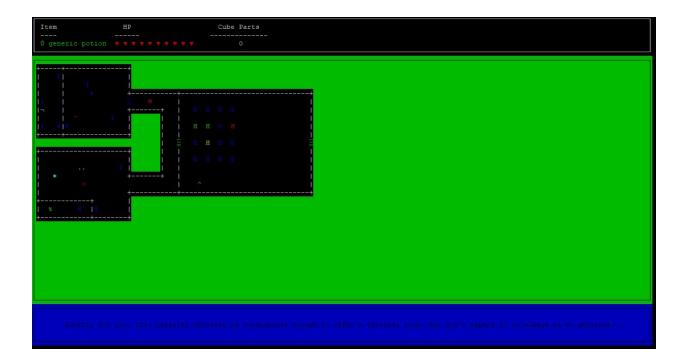
Equip Highlighted Item - E (while in the Inventory Window)

Quit Game - Q (Prompt will appear. Y to quit, any other key will not quit)

Access the DevConsole - ~ or `

# UI

**Full Screen** 



This is the full screen view of the game (taken during testing) after it starts up. It is comprised of the Status Bar (blue bar at the top), the Game view (middle green section), and the Narrative Window. All three will be discussed more in detail in the following sections.

#### **Status Bar**

Below is a portion of the status bar. The rest of the status bar as seen in the Full Screen view is currently unused. The Item is the currently equipped item. In this case, currently the player has a generic potion. The player has 10 hearts or 10 HP. Damage taken will decrease the number of hearts, and healing will increase the number of hearts. The maximum HP of the player is 10 and will never be higher. Upon reaching 0, the player dies and the game is over. Cube parts are collected throughout the game and the current amount in your inventory is displayed in the status window.



#### **Game Window**

The Game Window can be one of two subwindows depending on if the player has the inventory open. If the inventory is closed, then the player sees the **World Window**. If the inventory is open, the player sees the **Inventory Window**.



The World Window as seen above, allows the user to interact with the game world. The World Window displays the current room (black area) and all of the items currently in the room. More on items and objects later.



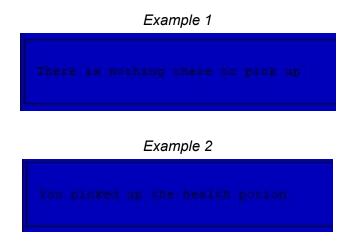
This is the Inventory Window. This is what the player currently has in its Inventory. Let's take a closer look at what information is provided in this window



Going from left to right, we start with the **slot number**. This player can carry a maximum of 20 items. The next is the **item** currently in the slot. In this case the player has a generic potion and a cube piece. The generic potion is the currently equipped item, denoted by \*. The Cube piece is currently highlighted. If the player was to press E, the Cube piece would become the equipped item. Lastly the **weight**. Every item has a weight assigned to it. Weight is used when picking up items, the player has a set amount of weight they can carry. They are unable to carry more than the set amount.

#### **Narrative**

The purpose of the Narrative Window is to aid the player as well as help to create an image for the environment that they are currently in. It will be a place to describe actions, item descriptions, and room descriptions (not yet implemented). Below are two examples



When an action occurs, the Narrative Window is updated. In the first example, the player tried to pick up nothing. The second example is displayed when a potion is picked up.

#### **Developer Console**

The Developer Console is a tool that was implemented which allows us, the developers, to see a log of what has been happening in the game. This is useful because it allows us to add Success, Error, and Trace statements throughout our code detailing what is happening in the game. This is an important feature for the user because it allows him or her to report bugs if error messages are displayed in console.

```
LOG: 18884

SUCCESS: this is an example of a success message

ERROR: this is an example of an orror message

This is an example of a normal log message
the Yellow Key does not work here...
You picked up the health potion
you used the Yellow Key
the Yellow Key does not work here...
switched to inventory window!
switched to overld window!
you used the Green Key
you used the Green Key
you used the Green Key
the Green Key does not work here...
switched to inventory window!
switched to inventory window!
switched to inventory window!
switched to world window!
You picked up the boulder
switched to world window!
switched to world window!
healed
switched to inventory window!
switched to inventory window!
switched to world window!
you used the Blue Key
Would you like to guit? Press Y to confirm or any other key to return to <Adventure Game>.
you used the Blue Key
switched to developer window!
```

The developer console can be opened by pressing the '~' button while in-game. When doing so, the World Window is replaced by the Developer Window. The Developer window itself displays the last 28 messages logged to a log file. Messages are written to the log file by the developers.

There are four types of messages displayed inside of the log: Success, Error, Info and normal logs. Success messages are displayed in green and are intended to show to the developer that code executed successfully. Error messages are displayed in red and are intended to show the developer that there is some error in the logic. Info messages are displayed in yellow and are intended to give the developer another color to work with, and see their trace statements independent of any other log noise. Finally, normal messages are intended to tell the developer anything they want about what's happening in the game.

```
SUCCESS: this is an example of a success message
ERROR: this is an example of a error message
INFO: this is an example of an info message
This is an example of a normal message
```

In future implementations, we are looking at adding a timestamp to indicate when each log was added. All logs are stored in a file under capstone/logs/adventure\_cprocessid.log in the case that a developer needs to access more than the past 28 log messages.

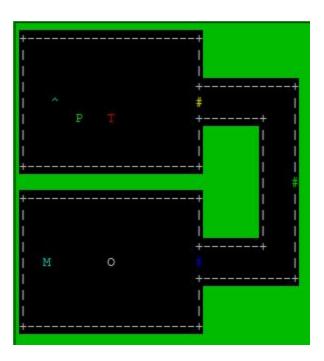
```
walkertu@flip1 ~/capstone (integration) $ cd logs/
walkertu@flip1 ~/capstone/logs (integration) $ ls
adventure_15688.log
```

# **Items/Objects**

Below are the items that we currently have in the game. Included will be a picture and a brief description.

# **Spaces**

Spaces are areas that the player will use to interact with the world.



Above is an example of a space. This is an older version of the first space (Room 1) that the player starts in. Each space is individually designed and may contain puzzles to solve, items to pick up, or enemies to fight. Spaces similar to Room 1 also include rooms within. As seen in the picture above, there is a top area locked behind a yellow door (#) and another bottom area locked behind a blue door. Both of these rooms are connected by a hallway which contains the green door that leads to another space.

Every space has an array of items. So it is possible to pick up an item from one room and move it to the second room.

#### **Player**

This is the user controlled player character. The direction he is facing is determined by the way the "arrow" faces. The direction faced is important for picking up and using items. They are used in front of the player. Below are the four ways the player can be facing. They are changed by the last direction you moved.





**Enemies** 

Enemies are a subclass that inherits from the Player class. Rather than the player explicitly defining the input that allows for movement, the game itself gives the enemy class a random direction to move every 0.75 seconds. Furthermore, when enemies move into the player or the player moves into an enemy, the player will take damage.



#### Door/Keys

Doors and keys different items to interact with. Doors are locked and must be opened with a key. Doors are unable to be picked up. Keys however can be picked up.



The above image is the player surrounded by 3 keys (?) and a door (#). Each key has a different color to help distinguish which door it goes to. As you can see, one of the keys is yellow and so is the door.

Potions can be used to heal. They can be used from the inventory or walked over. Below are the World View representation of a potion, as well as the stats for the inventory.



### Trap

Traps work in a similar fashion to potions, the difference is obviously they hurt. They will deal damage to the player if walked over. You are unable to use a trap, sorry. Below is the representation and the inventory stats.



#### Movable

Movable items can be pushed by walking into them. They are unable to picked up. Furthermore, movable items can only be pushed by the player, and not other movable objects. What this means is that movable objects that are pushed into a *Movable* will be blocked and not move any further. Below is the representation of a movable item in the world view.



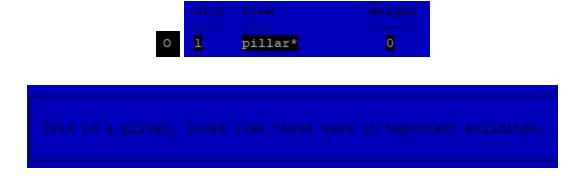
#### Movable2

During game development, there was a need for movable objects that can be pushed, together in a line. Enter Movable2. These objects do not get blocked by one another. Rather, they are capable of being pushed together and can be moved by the player, Moveable, and Moveable2 objects.



#### **Immovable**

Immovable items can be picked up but they cannot be moved unless you physically transport them somewhere. This means the player is unable to "push" the immovable item. Below is the representation, stats of a single immovable objects, and the description of the item as displayed in the Narrative Window. **Spoiler**: it is a mini pillar.



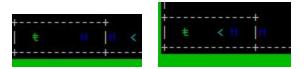
# **Soft Block**

Other than a few minor differences in terms of appearance and description, Soft Block items are essentially the same as Immovable items at the surface level. However, there is one key difference between the two items: Soft Block items can be destroyed by Bomberman Bombs. Below is the world representation.



#### **Teleporters**

Teleporters are an alternative form of movement between rooms. They function almost the same way a door functions. They will teleport the user to a different location. The new location may or may not be in the same room as the teleporter. The biggest difference is that you are unable to go back through the teleporter. A door exists on both sides, however, a teleporter can only go one way. A teleporter is represented by an "H". In almost every case, they are blue. However, a few teleporters are alternate colors. The first image is before using a teleporter, the second is after.



#### **Statues**

Statues are used to help provide hints and immersion. They can be read in one of two ways. First you can walk into the statue. You are unable to move on top of it, but it triggers the narrative window to display the description of the statue. The second way is by pressing "R". All statues are represented by an "I".



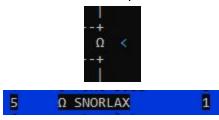
#### **Cube Pieces**

Cube pieces are the most important item of the game. They tie into the plot and the goal to complete the game. There are 5 spread out through the first half of the game. Their exact locations can be found in the walkthrough towards the end of the Game Guide. If you are wondering around and see one pick it up. You can see what they look at below.



#### Snorlax

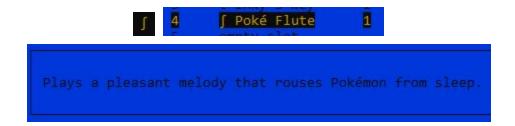
Snorlax begins as a room item and then later becomes an attainable item. At the start of the game, he blocks the player from progressing West in Room 3. After the player obtains the Poké Flute, Snorlax awakens from his slumber and moves to a new position in the room which allows the player to progress West. If the player uses a Poké Ball while Snorlax is awake, Snorlax is then added to their inventory. Below is the world representation and the inventory stats.



A sleeping POKeMON blocks the way! Welcome to Route 12. It appears that there is a very large and very lazy looking Pokemon over there.

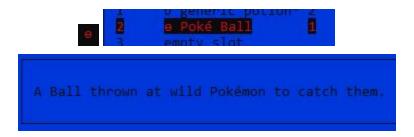
# Poké Flute

Poké Flute is an item which must be obtained to rouse the sleeping Snorlax from his slumber in Room 3. Below is the representation and the inventory stats.



#### Poké Ball

Poké Ball is an item which converts Snorlax from a room item to an attainable item. It can only be used on Snorlax after it has been awaken by the Poké Flute. Below is the representation and the inventory stats.



#### **Professor Oak**

Professor Oak is a room item located in the Repair Room. When the player interacts with Professor Oak they learn that if they give him a Pokémon they will receive a prize. Below is the world representation.



#### **Bomberman Bombs**

Bomberman Bombs are used to destroy the Soft Blocks found in Room 6. They are not usable in any other room. If the player is directly above or around a Bomberman Bomb when it explodes, they receive 3 damage. Below is the representation and the inventory stats.



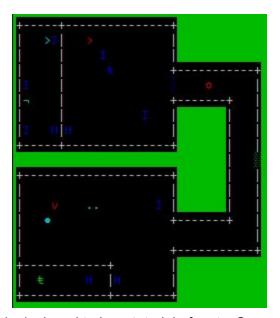
(continued next page)

Creates an explosion in a + shape. Don't forget to duck for cover!

# Walkthrough (Spoilers ahead!)

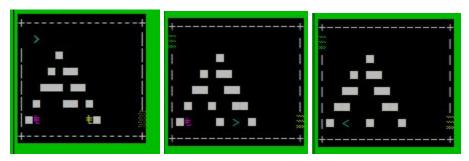
This walkthrough will go space by space to help you beat the game. Each room will be covered in the order that they are encountered. A picture will be provided of the entire room, however, they will be in full color to show where the traps and events are located. A master map can be found at the end of this section. Some rooms have hidden traps and events.

#### Start



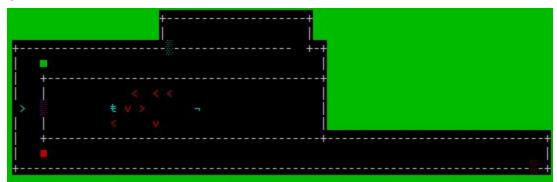
This is the starting room. It is designed to be a tutorial of sorts. Some objects and items do not need to be interacted with to complete this room. They are to help the player learn briefly about their surroundings. You start in the left side and need to go through the green door. The green door is locked so you need the green key, located at the bottom, to open it. Statues (I) provide hints to help you out. If you take damage, you can move the big teal circle in the bottom portion of the space to regenerate some health.

#### Zelda



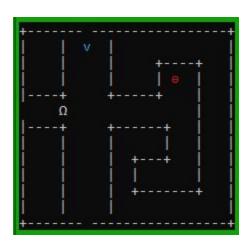
The Zelda Blocks room requires the Player to move the blocks to obtain the keys. Above is one of the possible solutions. The yellow key is required to progress to the Blocks Room and the magenta key is required for unlocking the middle section in the Blocks Room.

# **Blocks**



Using the magenta key, the Player can unlock the middle section. The should grab the cyan key and the cube piece. It is recommended and strongly suggest to lock the middle section after entering and after leaving to prevent the enemies from escaping. If they escape, they can pose a problem for the remainder of the room. The goal is to leave through the red door. However, pushing the red block results in the Player taking damage. Pushing the green block will heal the Player. The cyan is used to unlock the cyan door at the top, to allow the user to push the green block in both directions. The cyan key is also used to unlock the red door.

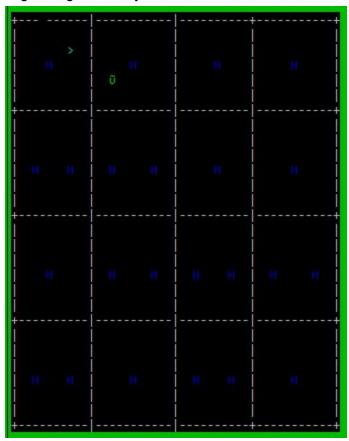
#### Snorlax



When you first enter this room, you will find that there is a door to the West. This is the path which must be followed to locate the final room where the Pandora's Cube pieces may be reassembled and the game completed. However, you will find that there is a Snorlax object blocking your path. Knowing the theme, the player might pick up the Pokéball which can be found in the upper right corner, however they will soon discover that they are unable to capture the pokemon. They will need to take the Southern exit where they can continue to navigate through the map until they obtain the Pokéflute which is hidden within a locked compartment of the Pac-Man room. Upon returning to Snorlax, the player may use the Pokéflute on Snorlax to awaken him from his slumber and move him to the edge of the bridge, allowing access to the West exit. At this point, the player could capture the Snorlax with the Pokéball if desired. It is not necessary to complete the game, but it does allow for an additional feature to be unlocked at the end of the game.

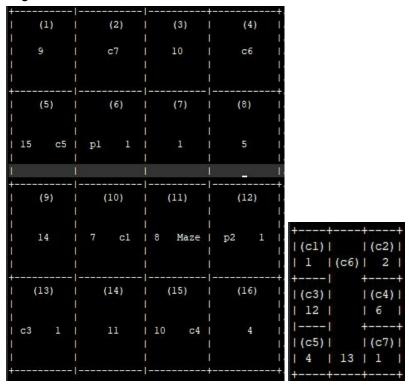
### Saffron Gym

This is probably the hardest room. It was modeled after the Saffron Gym that appears in different versions of the Pokemon games. A writing utensil and paper is strongly encouraged because you can potentially be teleporting around five different rooms. However, a cheat sheet is provided for teleporting through correctly.



Numbers or combos inside parentheses are room locations. For example, the first room you enter in the Saffron Gym room is room (or compartment) 1. The one directly right is 2, and so on

like reading a book. The second room (**Multiroom**) has the compartments labeled in a similar fashion. However, they start with the letter "c". The one exception is the middle portion of multiroom. This middle section is **c5**. **P1** is the left side of the Pac Man room and **P2** is the right side. **Maze** is the regular maze room.



By following the following teleporter numbers, you can successfully collect all three Cube Pieces, complete the Pac Man, Maze, and Multiroom Rooms, and collect a potion. You can even skip the Invisible Maze room. However, if you find yourself in the Invisible Maze (either by curiosity or by failing to complete Pac Man Part 1 before Part 2), you will need to consult the Invisible Maze section for a solution. Completing Pac Man Part 1 must be done before Pac Man Part 2.

All Solutions start in room 1, where the first teleporter will take you to compartment 9, and will end back at the start of the room after you collect the Cube Piece and take the teleporter. Cube Piece numbers assume you have collected the previous two pieces from previous rooms.

# Cube Piece 3

Take Teleporter to Room 9 -> 14 -> 11 -> 8 -> 5 -> 15 -> 10-> c1

#### Cube Piece 4 (Along with Cube Piece 5 and the Potion)

Take Teleporter to Room 9 -> 14 -> 11 -> Maze (cube 5) -> c7 (potion)

#### Pac Man Part 1

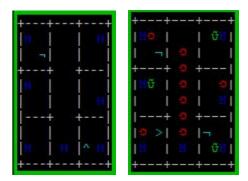
Take Teleporter to Room 9 -> 14 -> 11 -> 8 -> 5 -> 15 -> c4 -> 6-> p1

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# Pac Man Part 2

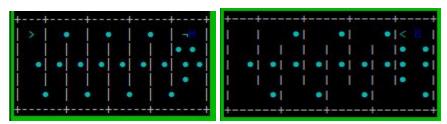
Take Teleporter to Room 9 -> 14 -> 11 -> 8 -> 5 -> c5 -> 4 -> c6 -> 13 -> c3 -> 12-> p2

#### Multiroom



This is the multiroom. The version on the left is what is seen while playing the game, including the hidden traps and potions. These traps and potions are unable to be picked up. The version on the right shows where all the hidden traps and potions are so you can avoid them or not. All of the areas are accessed via the Saffron Gym. The only hint for this room is to avoid walking straight down through the traps in the middle section.

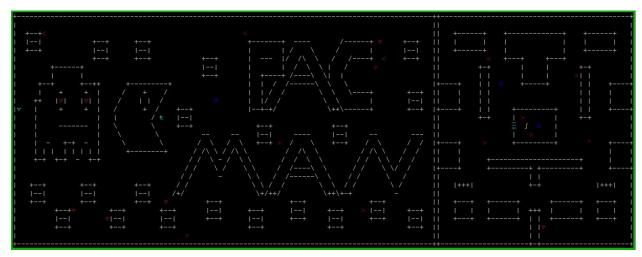
#### Maze



While the Saffron Gym is probably the hardest room in the game, this is one of the easiest. However, it is easy to mess up and will cause you to become trapped and have to restart. The picture on the left is taken upon entering the area. The picture on the right is a solved variation. The biggest thing to note is that the middle movable blocks are untouched. Pushing them all the way up or down result in the path becoming blocked, requiring a restart. The last little corridor that houses the Teleporter and Cube Piece can be solved numerous different ways, but we included only this variation for this guide.

# Pac-Man

The Pac Man room was designed after Pac Man. The room includes two areas. The first is the "Logo" (Part 1) on the left and the second is the "Play" (Part 2) area. Both are accessible by the player via different teleporters in the Saffron Gym Room. Below will discuss some important features about both.

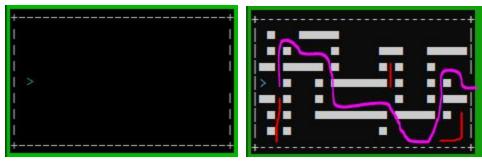


First is the area on the left. Inky's Key is required for to unlock the door in the area of the left. It can be found right in front of Pac Man's mouth. After collecting the key, the player can take the teleporter, but watch out for enemies.

The left side has numerous features. You spawn on the right side, and if you want a shortcut, you can walk to the right and be teleported to the other side of the "play" area. This idea was taken from the original game, where a user could use the middle to wrap around to the other side. If you forget to grab Inky's key or end up in this side first, there is only one option for you. The teleporter to the upper left of the middle room. This teleporter takes you to the Invisible maze. We recommend going to the Invisible Maze because it is a fun puzzle to solve.

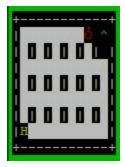
The middle area is locked behind a door. It requires Inky's Key (not the cyan key from earlier rooms). After being unlocked, the player can grab the Pokéflute, which can be used on Snorlax.

#### **Invisible Maze**



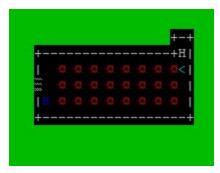
The Invisible Maze if one of several "punishment" rooms sprinkled across the map. When the player first enters the room it will appear to simply be an empty room with an exit on the East side of the map (see photo top-left). However, once they begin moving, they will discover that there are in fact invisible walls (or in reality, black on black immovable objects) preventing them from making a straight shot. In the top-right photo you can see the solution outlined in light purple, as well as the hidden walls revealed for the purpose of this photo. The lines in red are dead-ends the player can mistakenly navigate.

#### Bomberman



This room is filled with a set of Bomberman Bombs, a teleporter on the South-West side, numerous walls, and a whole lot of Soft Blocks. The player must navigate to the teleporter to teleport to the next room. However, the Soft Blocks may not be moved through. So, to get to the teleporter, the player must pick up the Bomberman Bombs and then equip and use them to blast a path through the Soft Blocks. To do this, the player must press 'e' to use the Bomberman Bombs directly to the side, above, or below a Soft Block. The bomb will then explode and destroy all of the blocks to the top, right, bottom, and left of the bomb's blast. Similarly, if the player is within this blast range (or directly on top of the bomb), then they will take 3 damage when the bomb explodes. Bomberman Bombs cannot blast through walls.

### **Trap Room**

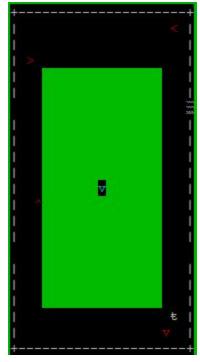


This is the trap room. The goal is to reach the other side. However, one trap in each column does 3 damage, one does 1 damage, and one does 0 damage. The only exception is the first column the Player faces upon entering the room, where no traps do damage. The traps damages are shown below.

0-3-1-3-0-1-3-0 1-1-0-0-3-0-0-0 3-0-3-1-1-3-1-0

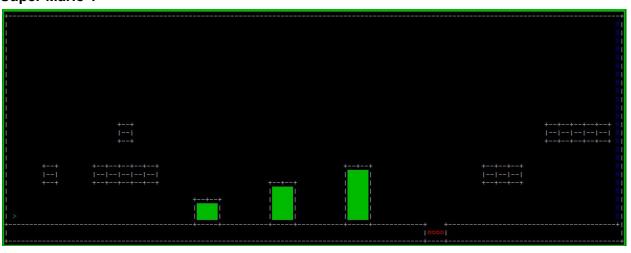
The correct path right to left would be *Any-> Middle-> Middle-> Top-> Middle-> Midd* 

# Rodent's Revenge



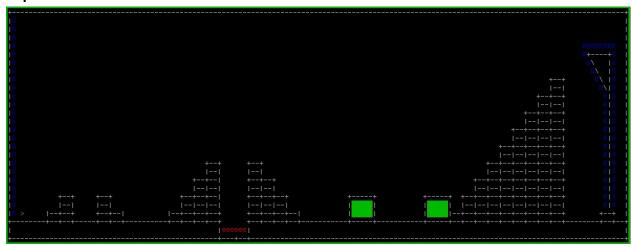
This room begins with the player trapped in the middle of a large set of blocks. There are two unlocked doors to the left, as well as one locked and one unlocked door to the right. The player must move the blocks to escape their confinement, while also being mindful of the enemies that can use paths created. The player must also be mindful of blocking off important doors with blocks that may end up being immovable. The key and locked door allow the player access to previous rooms. To progress, the player must navigate to the bottom right doorway. The player will then take the unlocked exit on the bottom right and continue on to the Super Mario rooms. All five Cube Pieces should be found before leaving this room through the bottom right door. There is no way back after leaving this room.

#### Super Mario 1



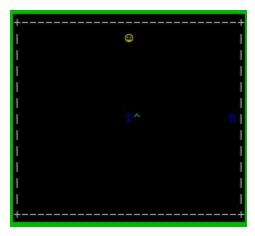
This room and the Super Mario 2 room were designed after the 1-1 level of Mario Bros games. They are far from perfect replicas. This image looks different than the room found while playing the game. The only difference is that the items in this room are hidden while playing. We left the items visible to aid the user. On the far right of the room are teleporters. All of them will teleport the player to Super Mario 2 room, which is a continuation from the current room. Avoid the traps, just as Mario avoids falling down the holes in the ground. They will cause you to instantly die. Watch out for gravity! Move up or down to give yourself some height, then watch as you slowly fall as you move left or right.

### Super Mario 2



This room is very similar to the first. We left the items visible in this picture for the same reason. The teleporters on the left bring you back to the first Mario room. The ones around the flag, take you to the next. The traps should be avoided. Watch out for gravity as well!

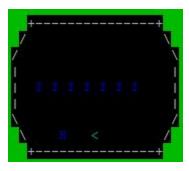
#### **End Room**



This is the end room. There are three things to do in this room. The first is visit Professor Oak. He wants to trade for a Snorlax. The second is to combine all five Cube Pieces at the Repair Station (statue in the middle of the room). You can interact with the statue and combine the Cube Pieces by pressing R while facing the Repair Station. The last thing you can do in this

room is hidden while playing. As you can see from the image above, there is a teleporter against the wall, directly to the right of the Repair Station. Taking this hidden teleporter leads the player to the Trophy Room.

# **Trophy Room (Secret)**



This is a secret Room. The statues were our way of giving credit to some of the great games that inspired us. The teleporter can be used to go back to the End Room.

# **Master Map**

Below is the Master Map. This is how the rooms are connected. Some rooms are connected by a doorway while others are connected via teleporters. If you need to navigate to a specific room, the map can be used. However, the Master Map does not indicate if the doors are locked or unlocked, just that there is a doorway there.

