

Potions Answers

```
chosen_block_id = 5
start = world(-323, -53, 244)
for index in range(12):
    if agent.inspect(AgentInspection.BLOCK, DOWN) == chosen_block_id:
        agent.interact(RIGHT)
        break
    agent.move(FORWARD, 1)
agent.teleport(start, EAST)
```

The variable “chosen_block_id” can be set to one of the block ids below:

- Oak Planks: 5
- Cobblestone: 4
- Sandstone: 24
- Quartz Block: 155
- Lime Concrete: 236
- Shroomlight: 766
- Bricks: 45
- Hay Bale: 170
- Purpur Block: 201
- Redstone Block: 152
- Glowstone: 89

It will need to be set to the block id that corresponds to the ingredient needed for the potions listed on the chalkboards in game.

To create a potion of strength 2, do the following:

- Set the chosen block id to 766, to receive blaze powder. Use this to power the brewing stand.
- Set the chosen block id to 5, to receive nether wart. Use this to create an awkward potion.
- Set the chosen block id to 766, to receive blaze powder. Use this to create a strength potion.
- Set the chosen block id to 89, to receive glowstone dust. Use this to increase its effects.
- Set the chosen block id to 4, to receive gunpowder. Use this to make the potion splash.

Herbology Answers

There are no set answers for herbology as it is up to the user to create variables with suitable data types. To complete the class all that is needed is to place the correct flowers in the correct place.

Make sure learners complete the task before doing this.



Spells Answers

This is what should be used in task 1. The resulting variable “replace” should be all lowercase with no whitespace. Change “current_spell” to one of the provided input spells: spell0, spell1, spell2, or spell3.

```
current_spell = spell2
lower = current_spell.to_lower_case()
strip = lower.trim()
replace = strip.replace(" ", "")
player.say(replace)
```

Task 2 uses the variable “replace” created in task 1 and compares it to the expected output. When “replace” makes a match, the agent should move to one of the three labelled positions and place the correct block. The positions and blocks required are shown in the code below and are mentioned in the tutorial. Only the first 3 spells are required to run to complete the class.

```
agent.set_slot(1)
if replace == "alakazam":
    agent.set_item(BLACKSTONE, 1, 1)
    agent.move(FORWARD, 2)
    agent.place(FORWARD)
elif replace == "bamzook":
    agent.set_item(ICE, 1, 1)
    agent.move(FORWARD, 5)
    agent.place(FORWARD)
elif replace == "abracadabra":
    agent.set_item(DIAMOND_BLOCK, 1, 1)
    agent.move(FORWARD, 11)
    agent.place(FORWARD)
else:
    player.say("incorrect")
```

Alchemy Answers

The answers for each coloured section are as follows:

```
# RED SECTION
# 010101 +
# 001101 =
# 100010
# 1111

# YELLOW SECTION
# 011011 +
# 001011 =
# 100110
# 11 11

# PINK SECTION
# 000111 << shift 2 left (multiply by 4)
# 011100

# LIME SECTION
# 101000 >> shift 3 right (divide by 8)
# 000101
```

Astronomy Answers

To use a 1-dimensional array the code below is used:

```
agent.set_slot(1)
agent.set_item(GLOWSTONE, 64, 1)
for x in array_1d:
    agent.move(FORWARD, 1)
    if x == 1:
        agent.place(BACK)
start = world(-270, -28, 227)
agent.teleport(start, EAST)
```

To use a 2-dimensional array the code below is used:

```
agent.set_slot(1)
agent.set_item(GLOWSTONE, 64, 1)
for y in array_2d:
    for z in y:
        agent.move(FORWARD, 1)
        if z == 1:
            agent.place(BACK)
    agent.move(RIGHT, 1)
    agent.move(BACK, 10)
start = world(-270, -28, 227)
agent.teleport(start, EAST)
```

To complete this class the variable given in the tutorial labelled array_2d needs to be plot correctly.

Make sure learners either cut and paste task 1 to task 2 or comment it out. Only run one task at a time otherwise it will not work.

Final Quiz

What is the worst-case search time in linear search where n is the length of the array?

Answer: n

True and False are examples of what data type?

Answer: Boolean

What is the first stage of the IPO concept?

Answer: Input

When we make 3 binary shifts to the right what is that the equivalent of?

Answer: Divide by 8

How many dimensions is the following array [[[0, 1],[1, 0]],[[2, 9],[3, 7]],[[4, 3],[2, 2]],[[7, 7],[1, 0]]]?

Answer: 3