APS106

MIDTERM REVIEW

RULES OF THE GAME

- Must use button on the table to answer question verbally and explain your answer – you will be called on to answer by one of the instructors
- Must tell us which discipline you're in before you answer for points (we'll rely on the honour system)
- If you get the answer right, you pick the next category
- If you get the answer wrong, the next person whose hand is up can steal
- Everyone is here to learn and review for the midterm so be kind to everyone who answers!

PANEL

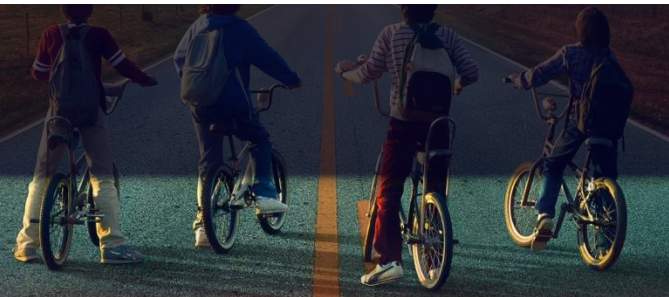
STRANGER STRINGS	LOOP WARS	THE BOOLEAN IDENTITY	THE BATCODE RISES	MISSION DEBUGGING
$250	$250	$250	$250	$250
$500	$500	$500	$500	$500
$1000	$1000	$1000	$1000	$1000


STRANGER STRINGS
"Because Python strings can hide secrets — just like Joyce's Christmas lights!"
WELCOME
TO
HAWKINS

➢ THINGS AND STRINGS · $250

What is the output?

```
message = "THE UPSIDE DOWN"
print(message[4:-4])
```



Question board

➢ DUSTIN'S SECRET TRANSMISSION · $500

What is the output?

```
radio_signal = "Nobody normal ever accomplished anything meaningful in this world."
radio_signal = radio_signal.lower()
radio_signal = radio_signal.upper()
radio_signal = radio_signal[15:4:-4]
print(radio_signal)
```

Question board

➢ CRACKING ELEVEN'S CODE · $1000

Provide the print statement that will give this output?

```
my_name = "MIRKWOOD"
for i in range(len(my_name)):
    ...
```

```
M
        I
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                        K
                                W
                                        O
                                                O
                                                        D
```
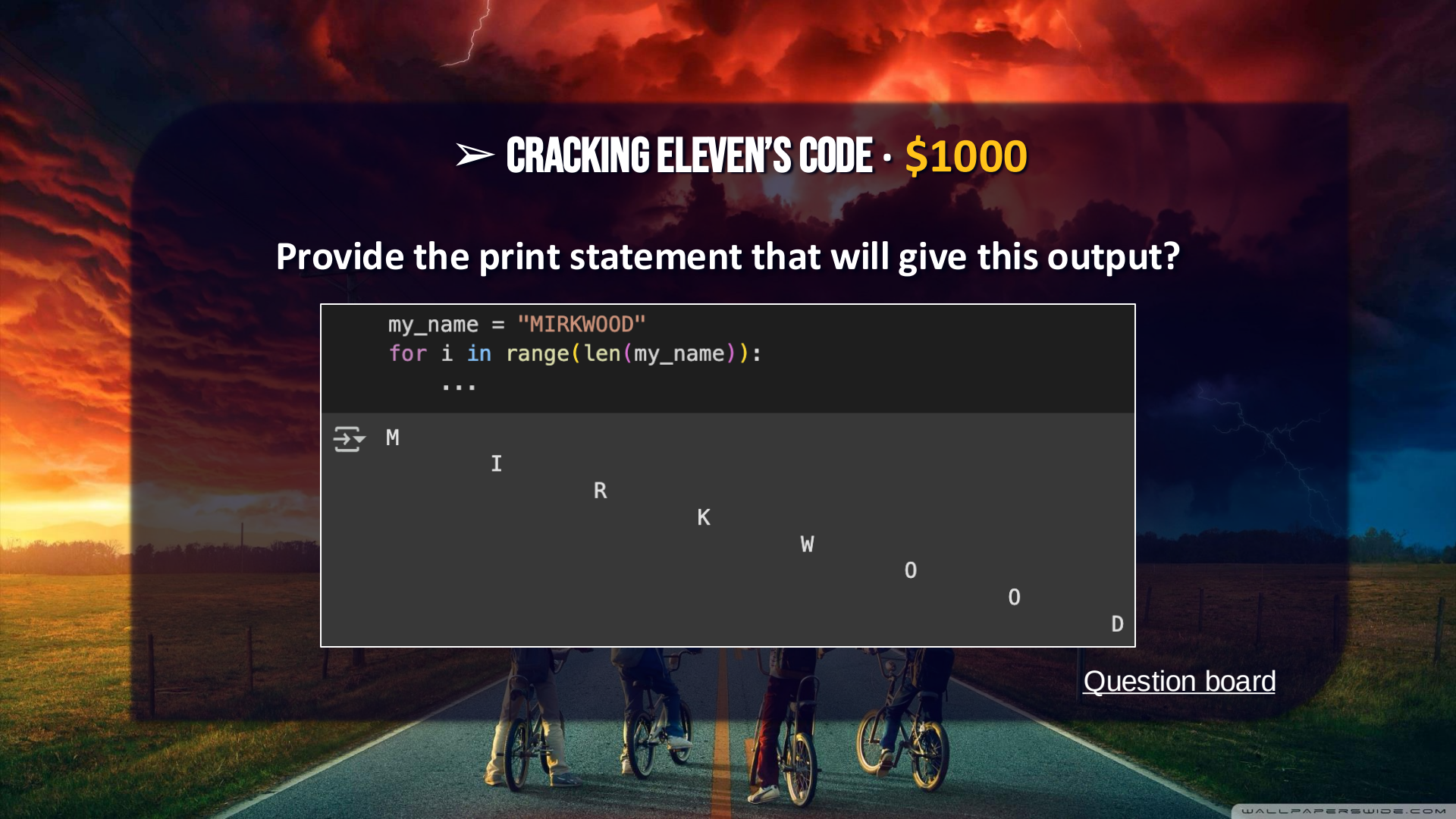
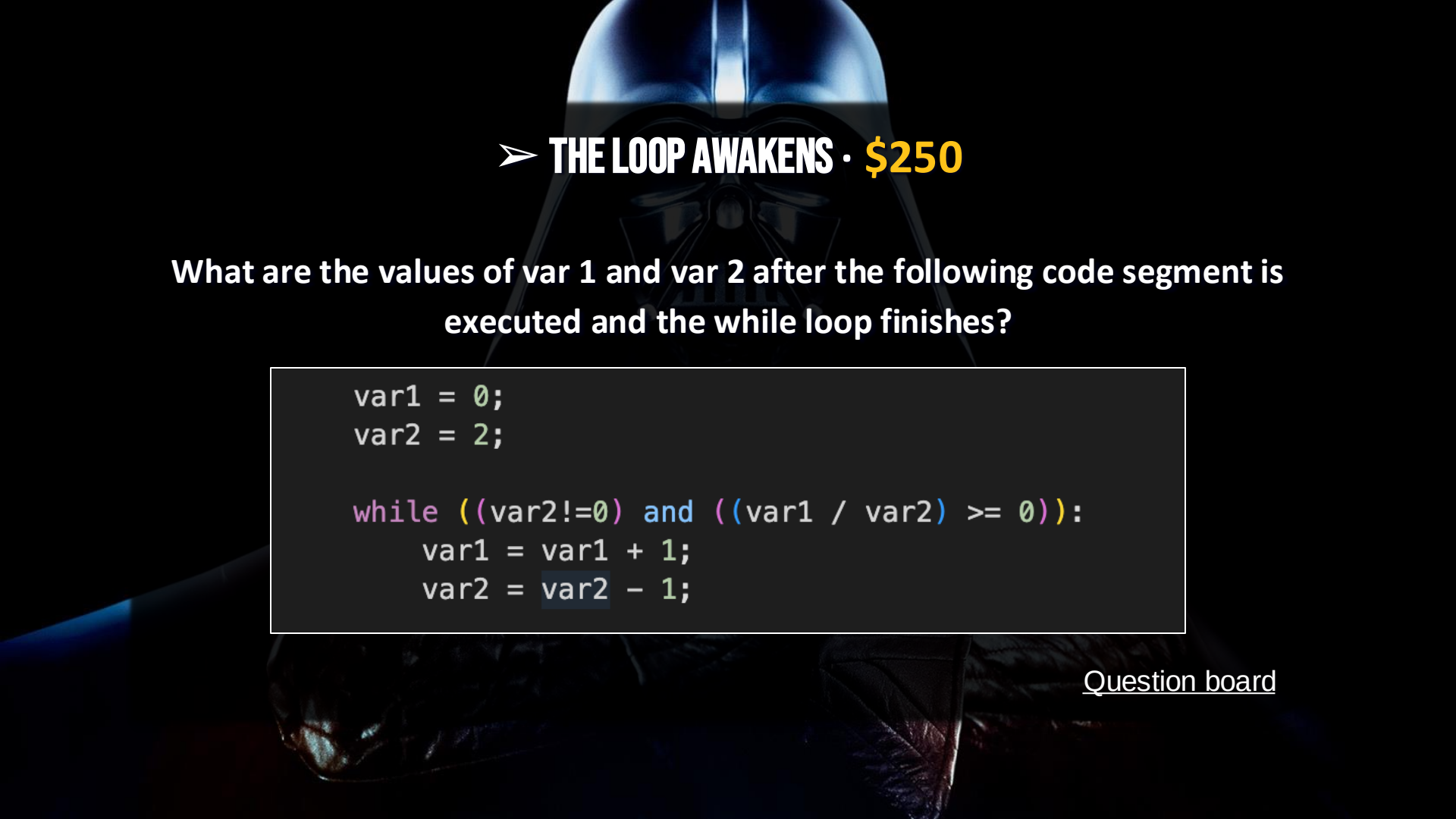

Question board




LOOP WARS
May the Loops & Logic Be With You

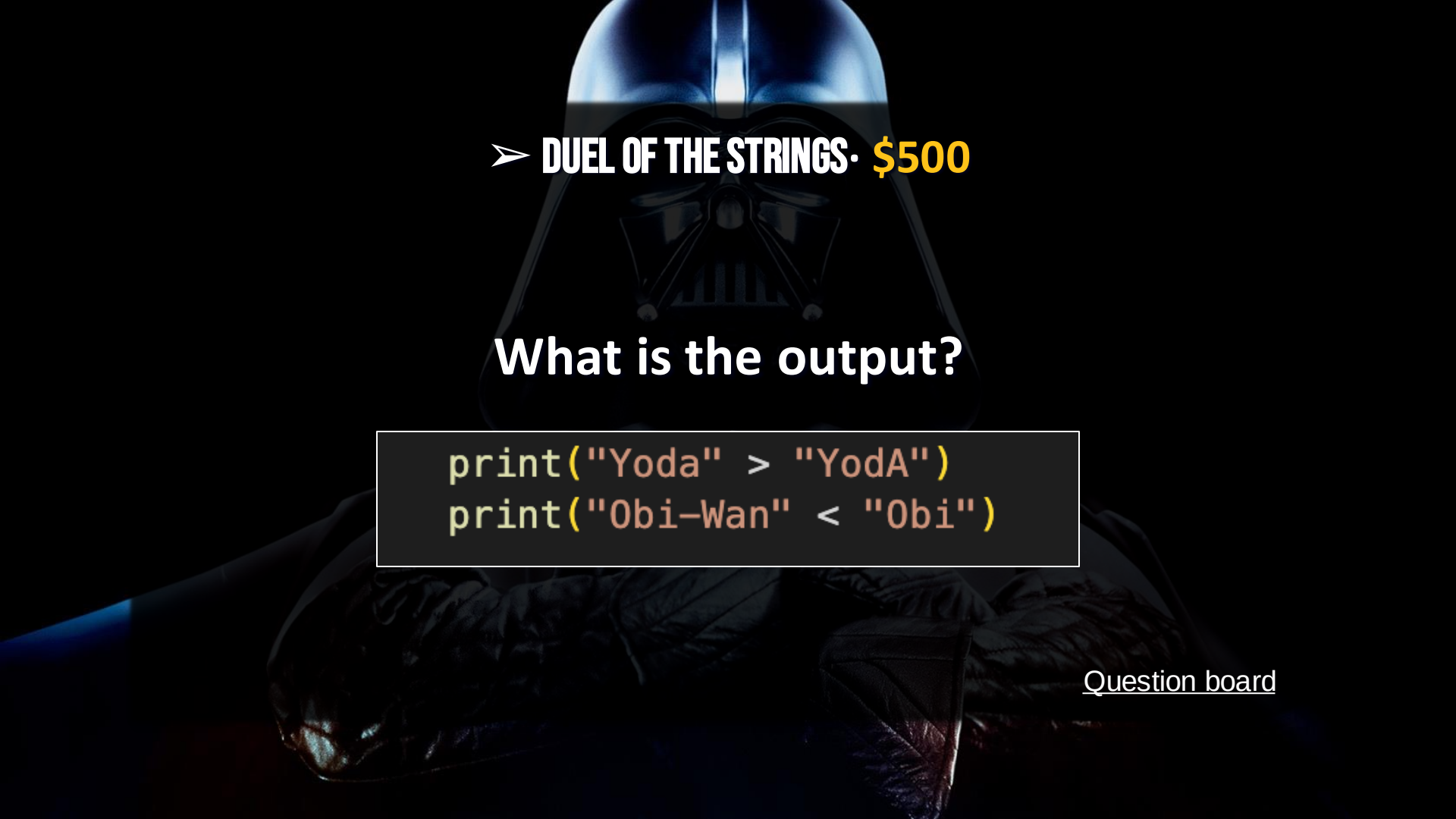


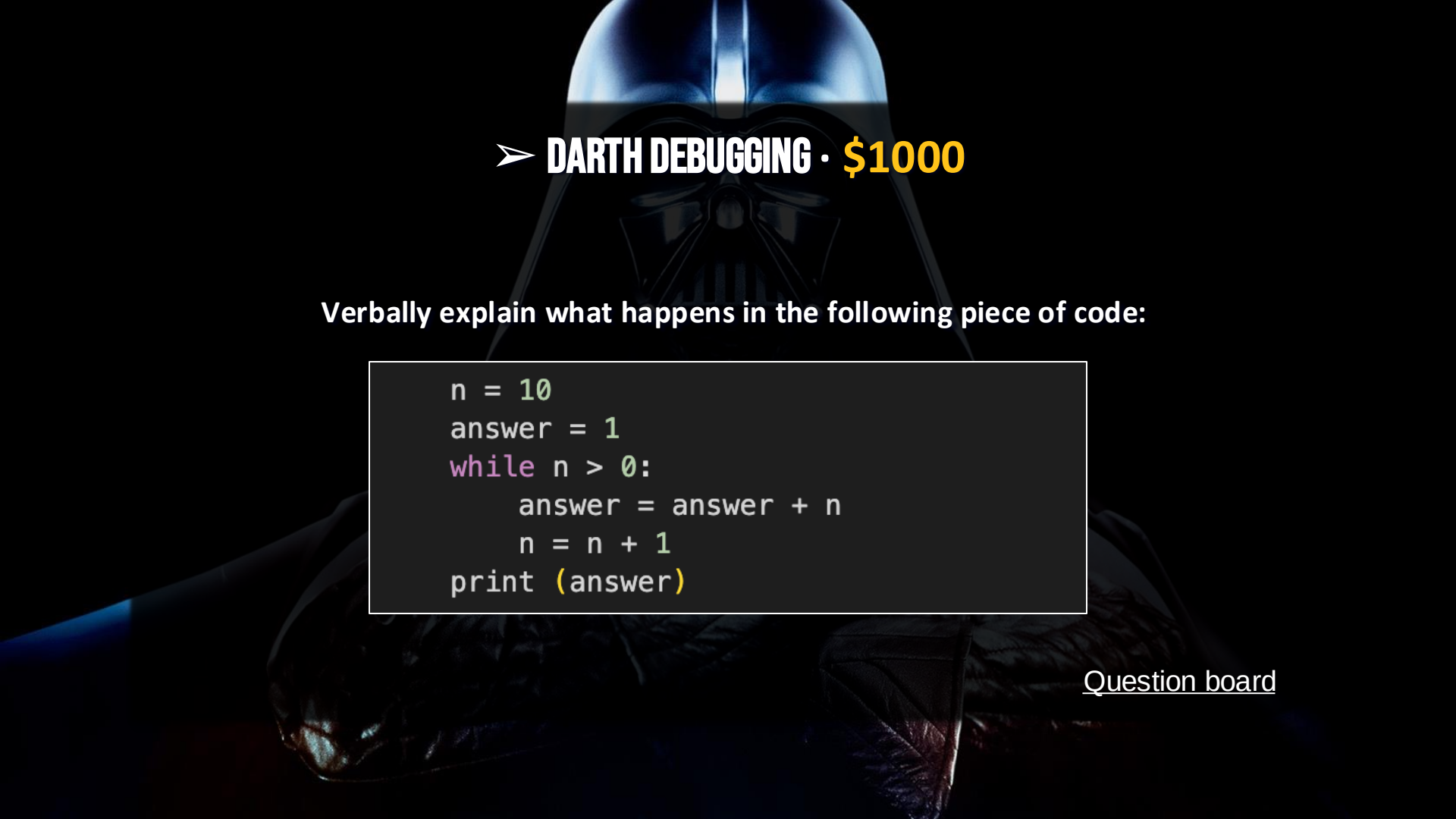
➢ THE LOOP AWAKENS · $250

What are the values of var 1 and var 2 after the following code segment is executed and the while loop finishes?

```
var1 = 0;
var2 = 2;

while ((var2!=0) and ((var1 / var2) >= 0)):
    var1 = var1 + 1;
    var2 = var2 - 1;
```

Question board


➢ DUEL OF THE STRINGS· $500
What is the output?
print("Yoda" > "YodA")
print("Obi-Wan" < "Obi")
Question board



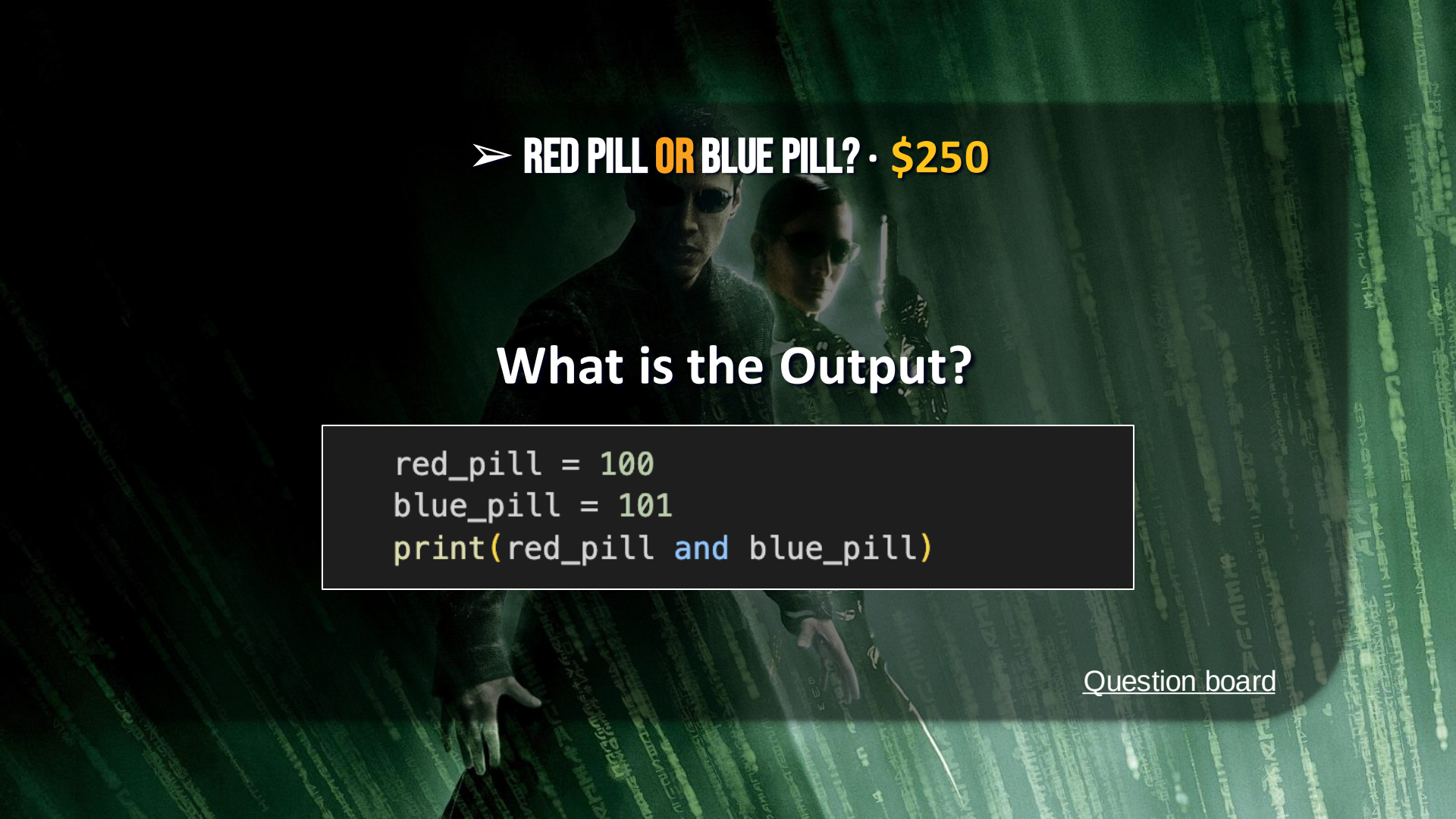
➢ DARTH DEBUGGING · $1000

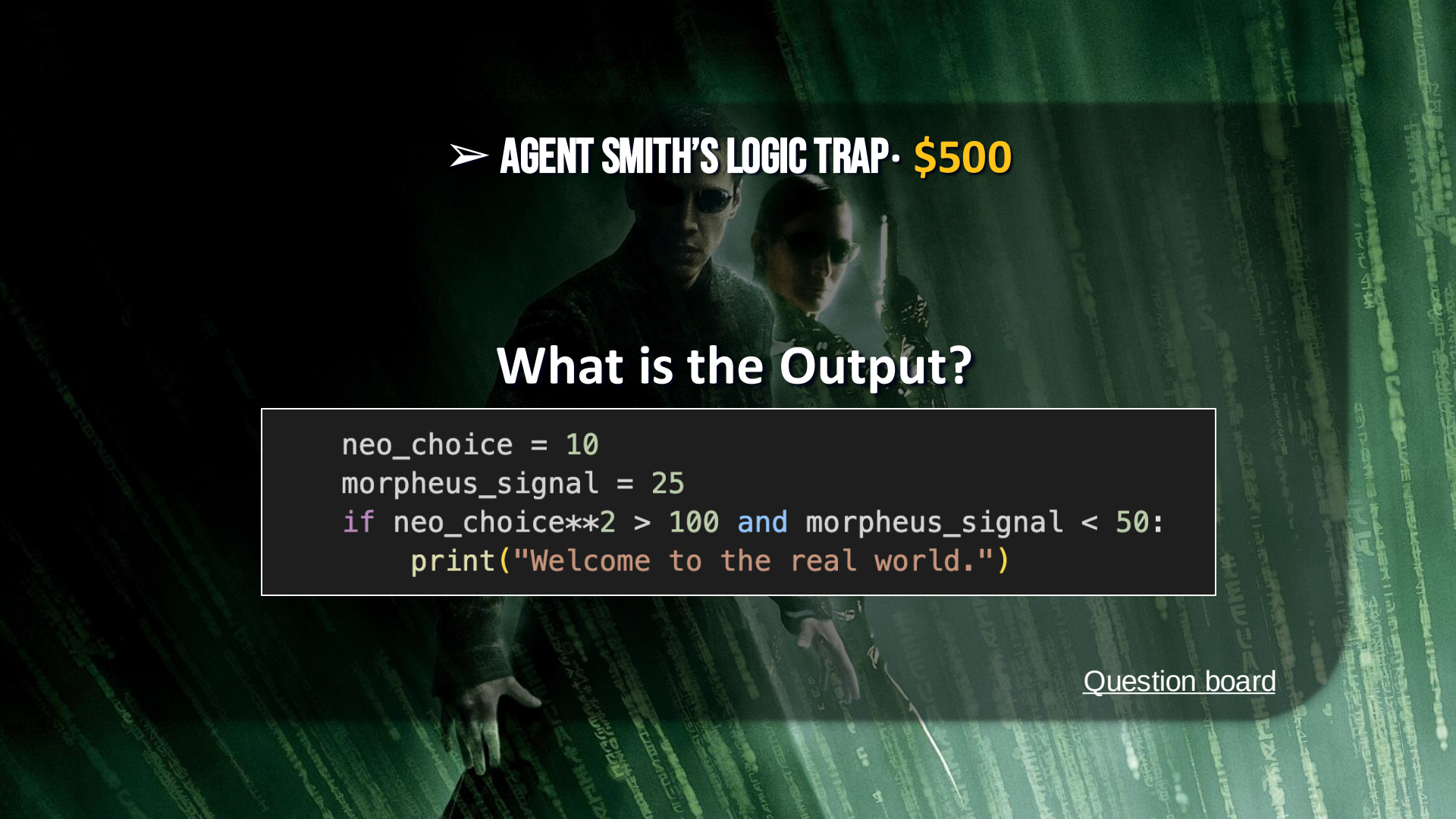
Verbally explain what happens in the following piece of code:

```
n = 10
answer = 1
while n > 0:
    answer = answer + n
    n = n + 1
print (answer)
```

Question board


THE BOOLEAN IDENTITY
The difference between knowing the truth... and living a lie.


➢ RED PILL OR BLUE PILL? · $250
What is the Output?
red_pill = 100
blue_pill = 101
print(red_pill and blue_pill)
Question board

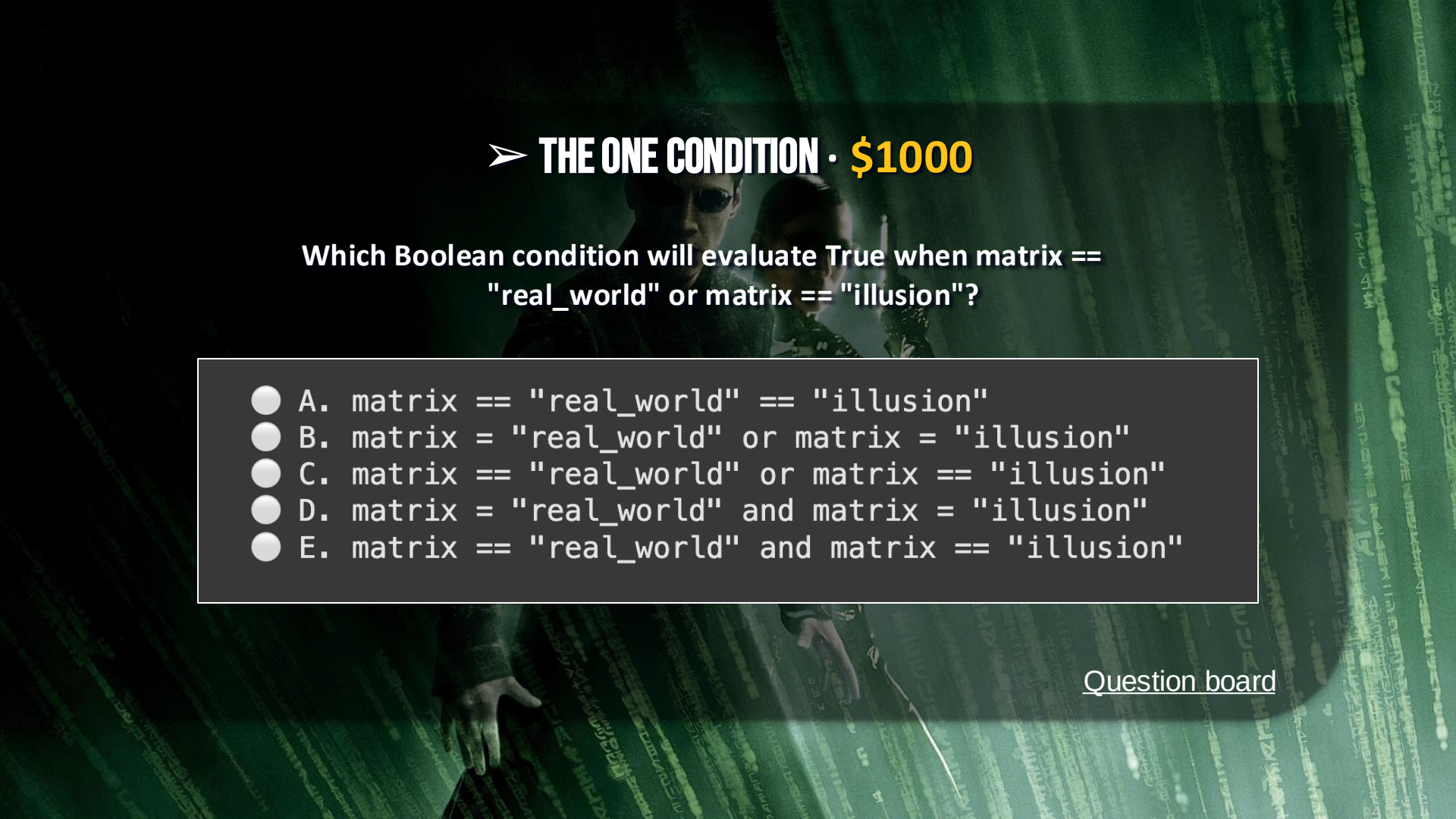


➢ AGENT SMITH'S LOGIC TRAP· $500

What is the Output?

```
neo_choice = 10
morpheus_signal = 25
if neo_choice**2 > 100 and morpheus_signal < 50:
    print("Welcome to the real world.")
```

Question board



➢ THE ONE CONDITION · $1000

Which Boolean condition will evaluate True when matrix == "real_world" or matrix == "illusion"?

- A. `matrix == "real_world" == "illusion"`
- B. `matrix = "real_world" or matrix = "illusion"`
- C. `matrix == "real_world" or matrix == "illusion"`
- D. `matrix = "real_world" and matrix = "illusion"`
- E. `matrix == "real_world" and matrix == "illusion"`

Question board

Every function needs structure—just like Gotham needs order.

➢ TRUE POWER OF THE DARK KNIGHT · $250

What is the outcome of executing this code?

```
def dark_knight_power(num):
    """The Dark Knight rises... to the power of 3."""
    print(num**3)

# The Dark Knight tests his might
bat_signal1 = dark_knight_power(5)
bat_signal2 = bat_signal1 + 1

print(f"Gotham's power level: {bat_signal2}")
```

Question board

➢ YOU EITHER DIE A HERO · $500

What is the Output?

```
def batman_or_joker(score):
    if score > 90:
        return "You're Batman."
    elif score > 50:
        return "You're Two-Face."
    else:
        return "You're Joker."

print(batman_or_joker(85))
```

```
What is the correct output?

[ ] You're Two-Face.
[ ] You're Batman.
    You're Two-Face.
[ ] You're Batman.
    You're Two-Face.
    You're Joker.
[ ] You're Two-Face.
    You're Joker.
```

Question board

➢ IT'S ALL PART OF THE PLAN · $1000

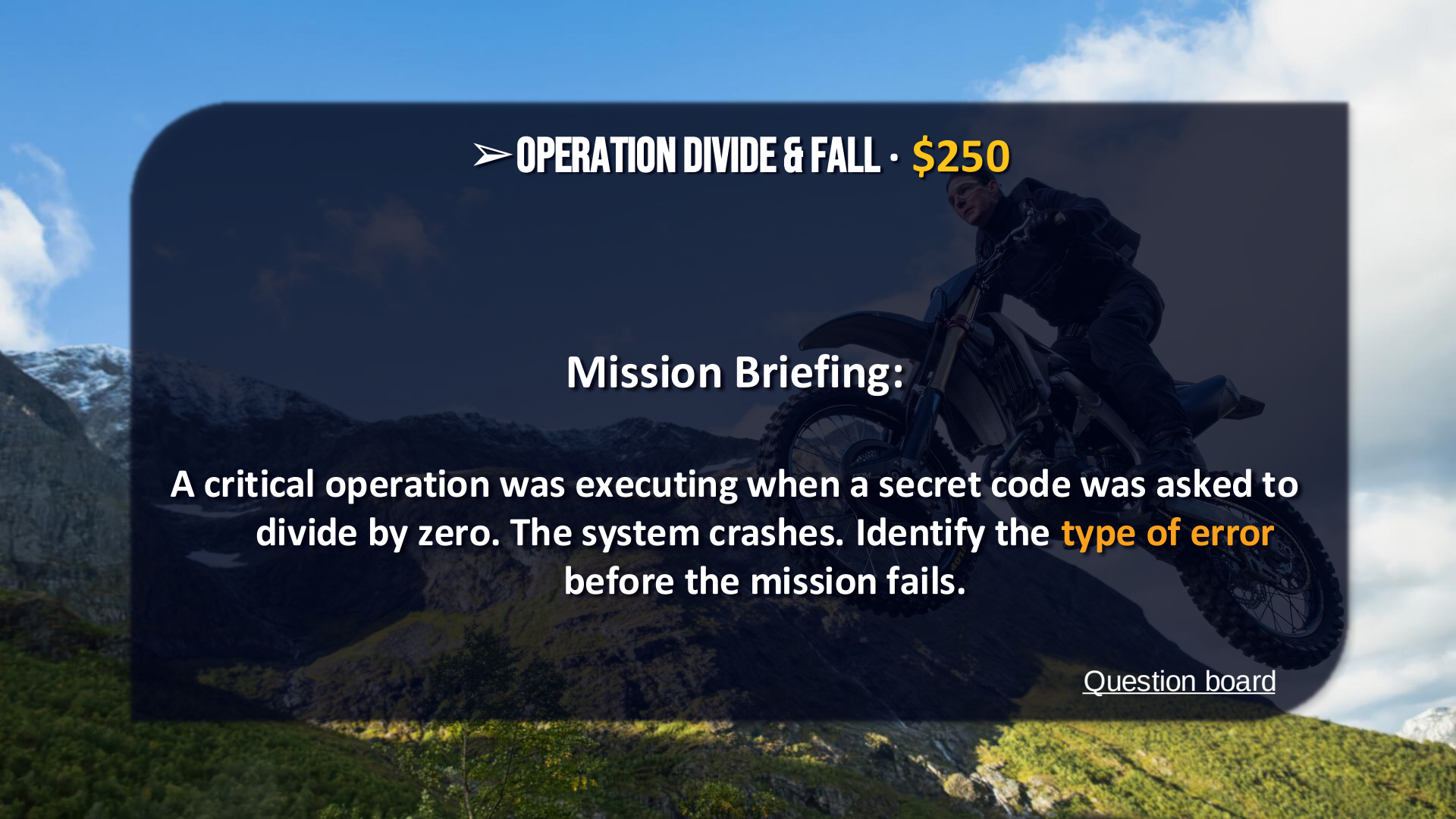
Select the missing function body from the options below

```
def where_is_batman(city):
    """Gotham needs to know where he is..."""
    # Missing Function Body

bat_signal = where_is_batman('Gotham')
Gotham

print(bat_signal)
Gotham
```

```
Options

[ ] return city
    print(city)
[ ] print(city)
[ ] print(city)
    return city
[ ] return city
```

Question board


MISSION:
DEBUGGING
Because every bug is a ticking time bomb… can you defuse it in time? ⏳💥

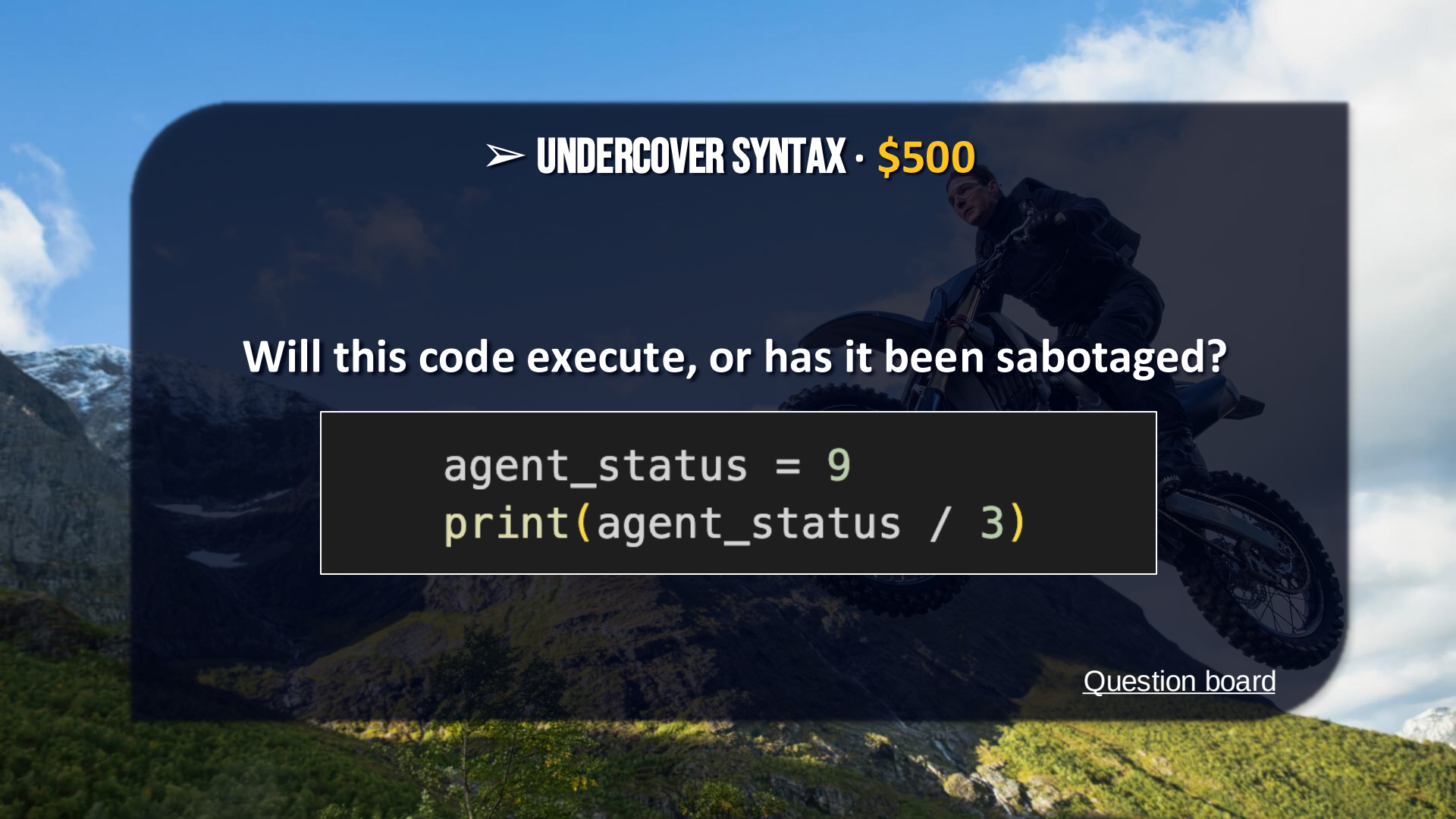


➢ OPERATION DIVIDE & FALL · $250

Mission Briefing:

A critical operation was executing when a secret code was asked to divide by zero. The system crashes. Identify the type of error before the mission fails.

Question board


➢ UNDERCOVER SYNTAX · $500
Will this code execute, or has it been sabotaged?
agent_status = 9
print(agent_status / 3)
Question board

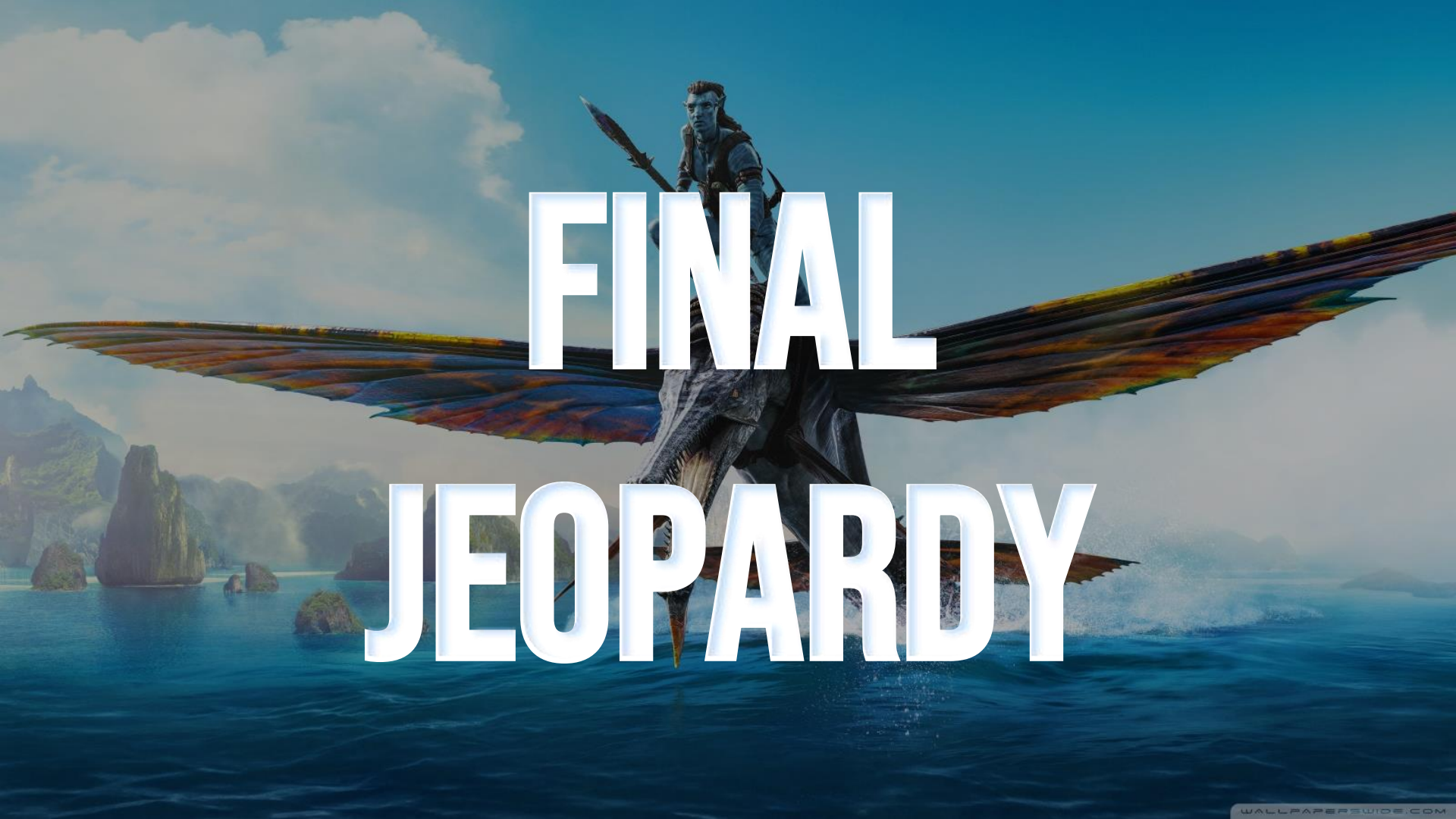
➢ THE DISAVOWED INPUT · $1000

What kind of error is that?

A hacker inputs “ethanhunt” and receives the response “Intruder Detected! Self-destruct in 5 seconds.”

```
access_code = input("Enter IMF override key:")
if access_code == "EthanHunt":
    print("Mission Authorized!")
else:
    print("Intruder Detected! Self-destruct in 5 seconds.")
```

Question board


FINAL
JEOPARDY

➢ MASTERING THE OCEAN'S FLOW

On Pandora, water changes depending on the environment.

- At freezing temperatures, it becomes solid ice.
- When the temperature is normal, it flows gently.
- When it's too hot, it turns into steam.

Your task:

Determine the state of Pandora's water based on its temperature.
Write a function that determines whether Pandora's water is ice, liquid, or steam based on temperature.

Question board