Secret Agent ID Generator [Completed]

🕵️‍♂️ Mini Project: Secret Agent ID Card Generator

> Time limit: 1 hour
>
> **Chapters covered:** 1 – Basics, 2 – Variables & Operators, 3 – Strings
>
> **Difficulty:** Beginner-friendly & fun
>
> **Goal:** Produce a console program that asks the user for information and prints a formatted Secret Agent ID Card.

📋 Problem Statement

Design a Python script that, after collecting a few details from the user, displays a hacker-style ID card for a secret agent.

The card must *show* the real name, a masked code name, joining year, mission status, and a custom ID string.

Required Features (Must-Have)

#	Requirement	Chapter Concept
1	Display a welcome message using `print()`	Chapter 1
2	Collect **four** inputs: real name, secret code name, joining year, mission status	Chapter 2 – `input()` & type casting
3	Mask the code name by showing only its first **three** characters followed by five asterisks `masked = code[:3] + "*****"`	Chapter 3 – slicing
4	Convert the mission status to **UPPER-CASE** before printing	Chapter 3 – string methods
5	Create an **ID string** by concatenating the *uppercase* code name with the last **two** digits of the year, separated by a dash `ID = CODE.upper() + "-" + year[-2:]`	Ch 2 (operators) & Ch 3 (slicing, methods)
6	Use an **f-string** and escape sequences (`\n` , etc.) to print the final card exactly like the sample below	Chapter 3 – f-strings & escapes
7	Program must run without errors and produce the correct format	All

💎 Bonus (Pick any)

1. **Random Agent Number** – import the `random` module and attach `AGT-XXXX` to the ID card.
2. **Text-to-Speech** – use `pyttsx3` to announce: *"ID Generated. Welcome, Agent ___."*
3. **Password Gate** – ask for a pass-phrase (`SPY2025`) and validate with logical operators before proceeding.

🖥️ Sample Interaction (Minimum Requirements)

```
*** Welcome to Spy ID Generator ***
Enter your real name: Prathamesh Nalge
Enter your secret code name: Phantom28
Enter your joining year: 2025
Enter your mission status (Success/Failure): Success

Generating ID...

==============================
||   SECRET AGENT ID CARD   ||
==============================
|| Name      : Prathamesh Nalge
|| Code Name  : Pha*****
|| Joined     : 2025
|| Status     : SUCCESS
|| ID String  : PHANTOM28-25
==============================
```

(Your output must replicate this layout, but with whatever data the user types.)

🔑 Implementation Hints (No Full Solution!)

- **Masking** → Remember end-exclusive rule: `code[:3]` gives chars 0, 1, 2.
- **Upper-case** → `status.upper()` converts the entire string.
- **Last two digits of year** → slice the string: `year[-2:]`.
- **Formatting** → Put the entire ID card inside one big f-string with `\n` for new lines.
- **Quick test** → Try hard-coding variables first, then swap in `input()` calls.

✅ Submission Checklist

- ☑ ~~Code runs without syntax errors.~~
- ☑ ~~All **Required Features** implemented.~~

- [x] ~~Output looks like the *Sample Interaction*.~~
- [x] ~~File named `secret_agent_id.py`~~.

> Tip: Aim for clarity over cleverness. Use comments to explain your steps — future-you will thank you!

Good luck, Agent 🕶️🚀

Status: Completed

```
import random        # For generating random numbers
import pyttsx3       # For text-to-speech functionality

print("***Welcome to the Spy ID Generator***")

# Take user inputs
name = input("Enter your Real name: ")
code = input("Enter your Secret code name: ")

# Simple validation for year input: ensure it's 4 digits
while True:
    year = input("Enter your Joining year (4 digits): ")
    if year.isdigit() and len(year) == 4:
        break
    else:
        print("Please enter a valid 4-digit year.")

status = input("Enter your mission status (Success/Failure): ")

print("Generating ID")

print('''==============================
||   SECRET AGENT ID CARD   ||
==============================
```

```
''')

# Set seed for reproducibility of random numbers (optional)
random.seed(10)

# Mask first 3 characters of code name and add stars
masked = code[:3] + "*****"

# Convert status to uppercase for uniform display
status = status.upper()

# Generate ID string: uppercase code name + last 2 digits of year + random num
ID = code.upper() + "-" + year[-2:] + str(random.randint(1, 10000))

# Display the secret agent ID card
print(f'''|| Name       : {name}
|| Code Name  : {masked}
|| Joined     : {year}
|| Status     : {status}
|| ID String  : {ID}
==============================
''')

# Initialize text-to-speech engine and speak the welcome message
engine = pyttsx3.init()
engine.say(f"Welcome, Agent {masked}, Your status is {status}, Your ID is {ID}. T
engine.runAndWait()
```