# Python Application Protection using Pyarmor

## Objective

To protect a Python application from being reverse-engineered, copied, or modified by obfuscating the source code using an open-source tool. The goal is to demonstrate the use of Pyarmor for securing business logic and intellectual property.

## Technologies Used

|  |  |
| --- | --- |
| Tool/Library | Purpose |
| Python | Programming language used for the application |
| Pyarmor | Open-source tool for code obfuscation and protection |
| VS Code | IDE used for development and terminal access |

## Workflow

1. Created a simple Python application with both public and secret functions.  
2. Installed and configured Pyarmor locally using pip.  
3. Ran `pyarmor obfuscate hello.py` to create an obfuscated version.  
4. Verified that the obfuscated file could not be read but executed properly.  
5. Documented the process and results with screenshots and explanations.

## Sample Code

Original Code (hello.py):  
def secret\_function():  
 secret\_value = 42  
 print("🔐 This is a protected function. Secret =", secret\_value)  
  
def another\_function():  
 print("✅ This is a public part of the app.")  
  
if \_\_name\_\_ == "\_\_main\_\_":  
 another\_function()  
 secret\_function()

## Obfuscated Output

The obfuscated file (dist/hello.py) appears encrypted and unreadable to humans:  
  
\_\_pyarmor\_\_(\_\_name\_\_, \_\_file\_\_, b'\x00\x00...')

## Execution Output

This is a public part of the app.  
 This is a protected function. Secret = 42

## Screenshots

Screenshots of the obfuscation and output are included in the `screenshots/` folder in the github.

## Project Structure

ProtectPython/  
├── protect\_python.py  
├── dist/protect\_python.py  
├── requirements.txt  
├── README.md  
├── report.pdf  
└── screenshots/

## Conclusion

This task demonstrated how to use Pyarmor to secure a Python script by converting it into an obfuscated version. The protected script maintains full functionality while protecting the internal logic from being exposed or misused.