User Manual for Bash to Python Compiler

Introduction

This tool converts Bash scripts (.sh files) into Python scripts (.py files) using a graphical user interface (GUI) built with Java Swing. The UI provides an easy way to enter Bash code, convert it to Python, and view the output.

Features

- **Left Panel:** Enter Bash script.
- **Right Panel:** View converted Python script.
- **Run Button:** Converts Bash script to Python.
- **Manual Button:** Opens this user manual (manual.pdf).

How to Use the Compiler

1. Launch the Application

Run the CompilerUI.java program to open the graphical interface.

2. Enter Bash Code

- Type or paste a Bash script into the left panel.
- Example Bash script:

```bash
for i in {1..100}; do
    echo "Number: $i"
done
```

3. Click the "Run" Button

- The tool saves your script as bash.sh.
- It then runs the compiler (Main.java), converting Bash code to Python.
- The converted Python script appears in the right panel.

4. View Python Output

- Example conversion output:

```python
for i in range (1, 101):

    print (f"Number: { i }")
```

- The output is also saved as output.py.

5. Click the "Manual" Button

- Opens this user manual (manual.pdf).

Example Bash-to-Python Conversions

Example 1

Bash Script:

```bash
num=10

if [ $num -gt 5 ]; then

    echo "The number is greater than 5"

else

    echo "The number is 5 or less"

fi
```

Converted Python Code:

```python
num = 10

if num > 5:

    print("The number is greater than 5")

else:

    print("The number is 5 or less")
```

Example 2

Bash Script:

```bash
#!/bin/bash

# Define a number

num=10
```

```bash
# Check if the number is greater than 5
if [ $num -gt 5 ]; then
    echo "The number is greater than 5"
else
    echo "The number is 5 or less"
fi
# Loop from 1 to 5 and print numbers
for i in {1..5}; do
    echo "Number: $i"
done
```

Converted Python Code:

```python
num = 10

if num > 5:
    print("The number is greater than 5")
else:
    print("The number is 5 or less")


# Loop from 1 to 5 and print numbers
for i in range(1, 6):
    print(f"Number: {i}")
```

Troubleshooting

- **No output appears?** Check if bash.sh contains valid Bash code.
- **Python syntax errors?** Ensure your Bash script is formatted correctly.
- **Manual doesn't open?** Make sure manual.pdf is in the same directory as the program.

For further support, contact the development team.

Version Information

Software Version: 1.0
Developer: Madhav Madan
Last Updated: March 2025