

# **Building a Morse Code Decoder with Python Classes**

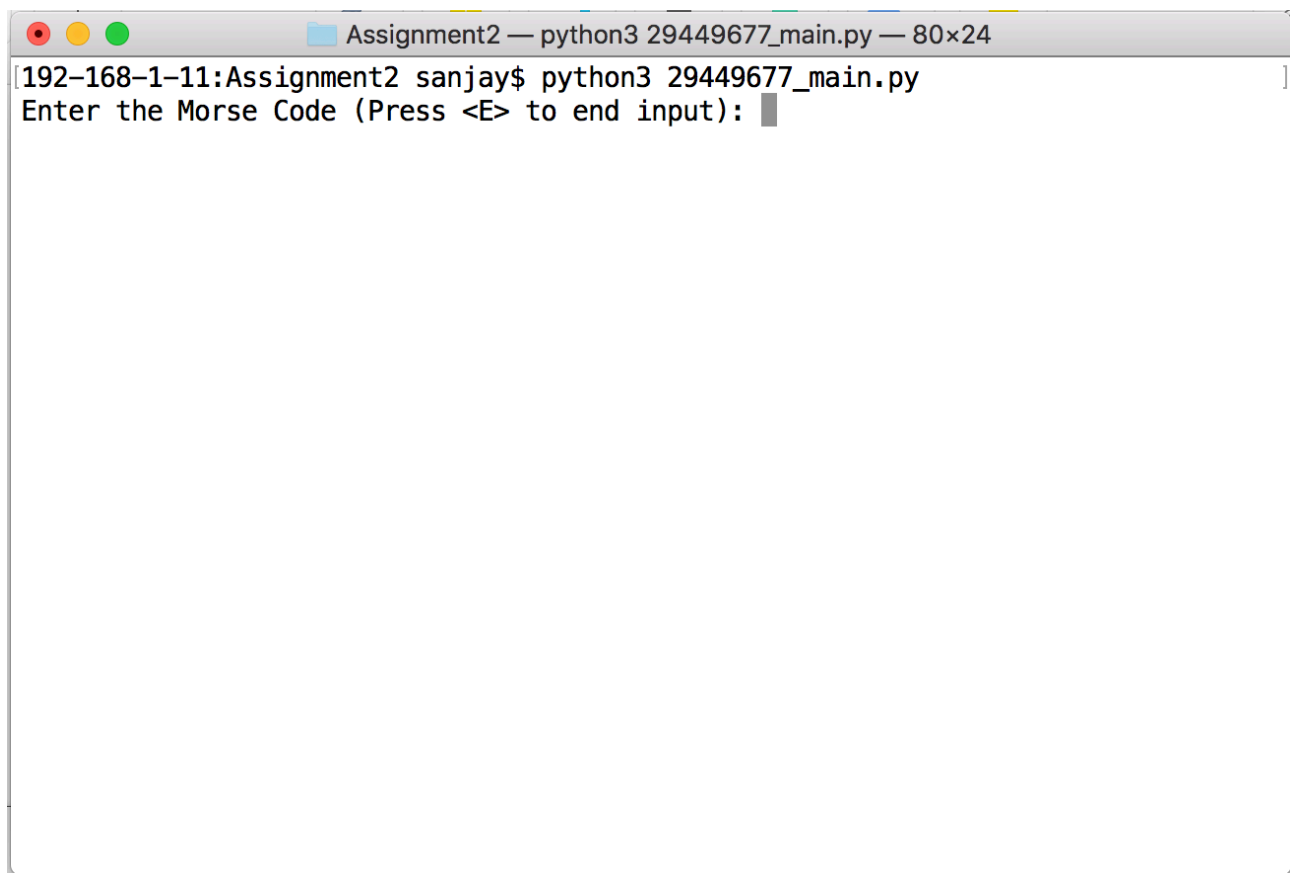
Assignment 2 Documentation

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## How to run the program

**\*\*\*Important: Please run the code on a linux or OS X system because text formatting in terminal may cause issues in windows systems\*\*\***

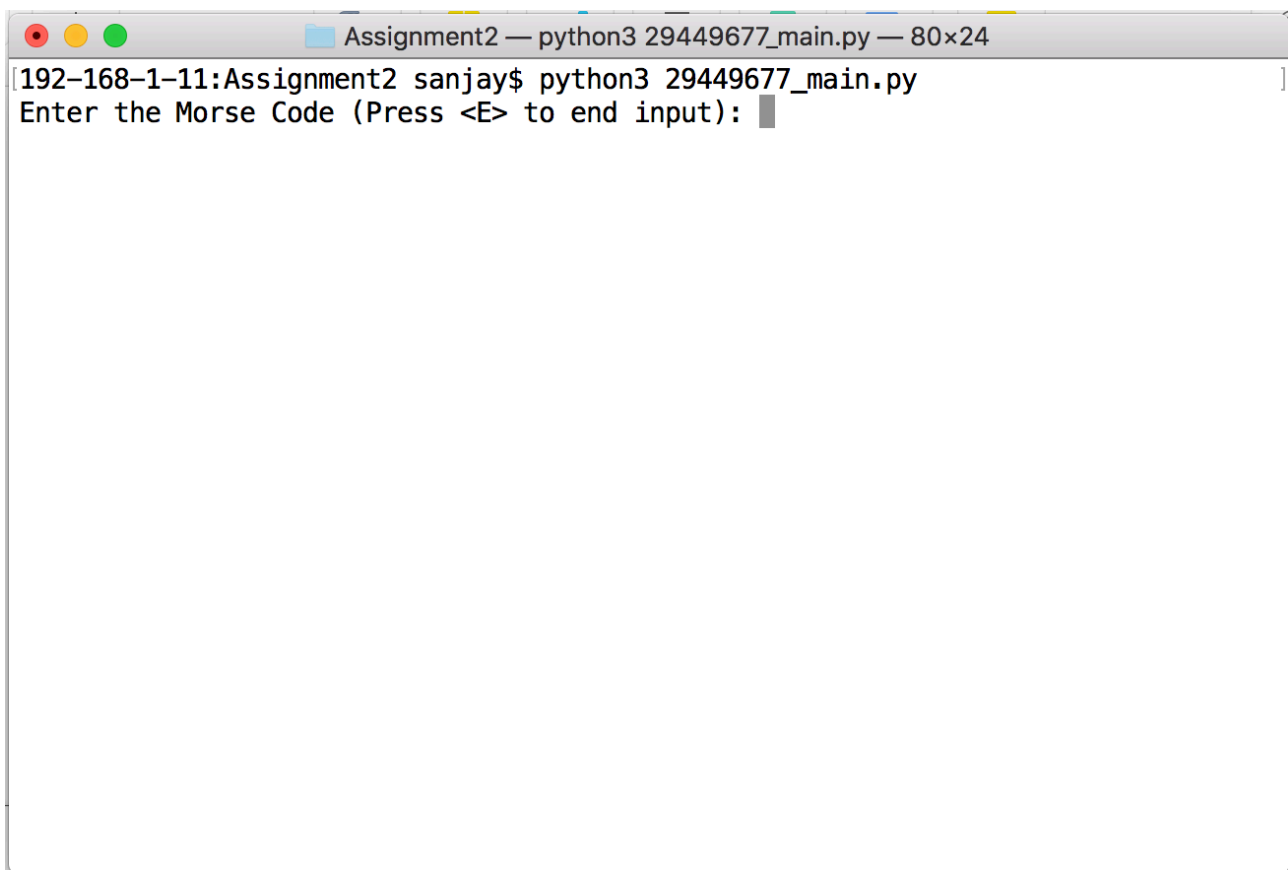
1. Unzip the 29449677\_A2.zip to ~/Desktop
2. Move into the folder 29449677 using the command “cd 29449677”
3. Run the command “python3 29449677\_main.py”
4. You should get the following screen with prompt to enter the Morse Code sequence.

A screenshot of a terminal window on a macOS system. The window title bar shows 'Assignment2 — python3 29449677\_main.py — 80x24'. The terminal content shows the command 'python3 29449677\_main.py' being executed, followed by the prompt 'Enter the Morse Code (Press <E> to end input):' and a cursor. The terminal background is white with a light gray border.

```
192-168-1-11:Assignment2 sanjay$ python3 29449677_main.py
Enter the Morse Code (Press <E> to end input):
```

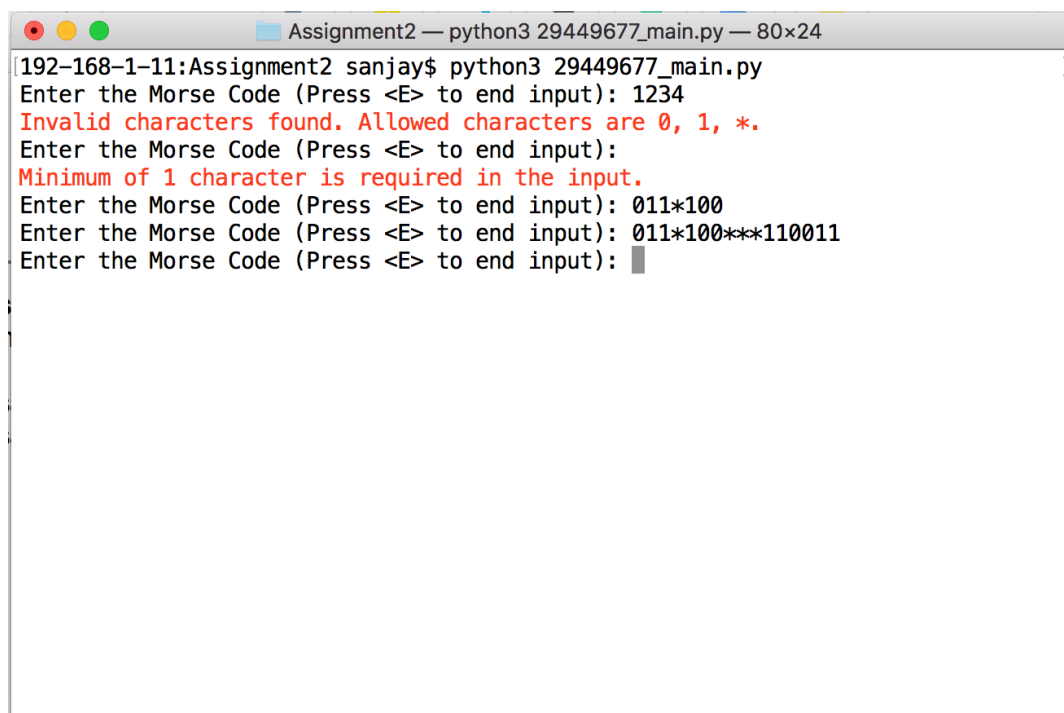
5. Follow the tutorial in the next section to run the program.

## Program Tutorial with Screenshots



```
Assignment2 — python3 29449677_main.py — 80x24
192-168-1-11:Assignment2 sanjay$ python3 29449677_main.py
Enter the Morse Code (Press <E> to end input):
```

You should be prompted to enter the morse code sequences. You can input the morse code sequences here one after the another by hitting return. If you enter any other characters other than 0, 1 and asterisk, you will get an error message. If your input is less than one character, you will get an error message.



```
Assignment2 — python3 29449677_main.py — 80x24
192-168-1-11:Assignment2 sanjay$ python3 29449677_main.py
Enter the Morse Code (Press <E> to end input): 1234
Invalid characters found. Allowed characters are 0, 1, *.
Enter the Morse Code (Press <E> to end input):
Minimum of 1 character is required in the input.
Enter the Morse Code (Press <E> to end input): 011*100
Enter the Morse Code (Press <E> to end input): 011*100***110011
Enter the Morse Code (Press <E> to end input):
```

After giving all the inputs press e. The inputs you entered will be displayed. Make sure all the sequences you entered ends with the morse code for either a period, comma or a question mark. Or error message will be shown when decoding that sequence, and wont be decoded. Only the correct sequences will be decoded.

```
Assignment2 — python3 29449677_main.py — 80x24
Enter the Morse Code (Press <E> to end input): 011*0000*111***01*11 1
Enter the Morse Code (Press <E> to end input): 011*0000*111***01*111111100000011
1
Enter the Morse Code (Press <E> to end input): 011*0000*111***01*11*110011***011
*0000*111***01*11***00***001100
Enter the Morse Code (Press <E> to end input): e
--- You entered 4 morse codes ---
1: 011*0000*111***01*11***00***001100
2: 011*0000*111***01*11*
3: 011*0000*111***01*11*11111000000111
4: 011*0000*111***01*11*110011***011*0000*111***01*11***00***001100
While decoding 011*0000*111***01*11*
    Decode Error: All sequences must end in either ,.?
While decoding 011*0000*111***01*11*11111000000111
    Decode Error: All sequences must end in either ,.?
--- Decoded 2 Sequences ---
1: WHO AM I ?
2: WHO AM, WHO AM I ?
--- Select an operation ---
1. Analyse Characters
2. Analyse words
3. Analyse Sentences
4. Quit
Enter your choice: █
```

After showing the decoded sequences, you will be given 4 options. You can select any of the 4 options. Screenshots shown below for all four options.  
Choice 1- Character Analyser

```
Assignment2 — python3 29449677_main.py — 80x24
Enter your choice: 1
--- Character Analyser ---
For WHO AM I ?
The occurrence of W is 1 time(s)
The occurrence of H is 1 time(s)
The occurrence of O is 1 time(s)
The occurrence of A is 1 time(s)
The occurrence of M is 1 time(s)
The occurrence of I is 1 time(s)

For WHO AM, WHO AM I ?
The occurrence of W is 2 time(s)
The occurrence of H is 2 time(s)
The occurrence of O is 2 time(s)
The occurrence of A is 2 time(s)
The occurrence of M is 2 time(s)
The occurrence of I is 1 time(s)

--- Select an operation ---
1. Analyse Characters
2. Analyse words
3. Analyse Sentences
4. Quit
Enter your choice: █
```

## Choice 2 - Word Analyser

```
Assignment2 — python3 29449677_main.py — 80x24

--- Select an operation ---
1. Analyse Characters
2. Analyse words
3. Analyse Sentences
4. Quit
Enter your choice: 2
--- Word Analyser ---
For WHO AM I ?
The occurrence of WHO is 1 time(s)
The occurrence of AM is 1 time(s)
The occurrence of I is 1 time(s)

For WHO AM, WHO AM I ?
The occurrence of WHO is 2 time(s)
The occurrence of AM is 2 time(s)
The occurrence of I is 1 time(s)

--- Select an operation ---
1. Analyse Characters
2. Analyse words
3. Analyse Sentences
4. Quit
Enter your choice: █
```

## Choice 3 - Sentence Analyser

```
Assignment2 — python3 29449677_main.py — 80x24

--- Select an operation ---
1. Analyse Characters
2. Analyse words
3. Analyse Sentences
4. Quit
Enter your choice: 3
--- Sentence Analyser ---
For WHO AM I ?
The occurrence of clause sentence is 0 time(s)
The occurrence of complete sentence is 0 time(s)
The occurrence of question sentence is 1 time(s)

For WHO AM, WHO AM I ?
The occurrence of clause sentence is 1 time(s)
The occurrence of complete sentence is 0 time(s)
The occurrence of question sentence is 1 time(s)

--- Select an operation ---
1. Analyse Characters
2. Analyse words
3. Analyse Sentences
4. Quit
Enter your choice: █
```

Choice 4 - The program terminates.

```
Assignment2 — -bash — 80x24
--- Select an operation ---
1. Analyse Characters
2. Analyse words
3. Analyse Sentences
4. Quit
Enter your choice: 3
--- Sentence Analyser ---
For WHO AM I ?
The occurrence of clause sentence is 0 time(s)
The occurrence of complete sentence is 0 time(s)
The occurrence of question sentence is 1 time(s)

For WHO AM, WHO AM I ?
The occurrence of clause sentence is 1 time(s)
The occurrence of complete sentence is 0 time(s)
The occurrence of question sentence is 1 time(s)

--- Select an operation ---
1. Analyse Characters
2. Analyse words
3. Analyse Sentences
4. Quit
Enter your choice: 4
192-168-1-11:Assignment2 sanjay$
```