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Course: Foundations of Programming: Python

Assignment07 – Exception handling and pickling

<https://github.com/natpritch/IntroToProg-Python/tree/Assignment07>

## Introduction

To get started I created the Assignment07 file using the Visual Studio Code editor. Then, I created the script header to update the change log. I created a dictionary of a task, the time needed to complete it, and the priority level.

```
# -----  
# Title: Assignment 07  
# Description: Exception Handling and Pickling demo  
# Natalie, September 8, 2023, Modified code to complete assignment 07  
# -----  
  
import pickle #import the pickle module  
  
# create a dictionary  
pickle_example = {  
    'task': 'sweep',  
    'time (minutes)': 30,  
    'priority': 'medium'  
}
```

## TODO #3 Pickling

In order to create a demonstration of pickling, I first reviewed this website:

<https://realpython.com/python-pickle-module/> I like the clear examples and detailed explanations provided. I used pickle.dump to dump the dictionary into an open pickle\_example file.

```
16 # Pickling  
17 # write the object to a file  
18 with open('pickle_example.p', 'wb') as file: #open a file named 'dict_pickle.p' in write and binary mode ('wb')  
19     pickle.dump(pickle_example, file) #use pickle.dump() to dump the dictionary to the opened file  
20  
21 print("Dictionary has been pickled!")  
22
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL

Dictionary has been pickled!

Then I used pickle.load to unpickle the file. I also printed the unpickle\_example to confirm that worked.

```

23 # Unpickling
24 # read the object from the file
25 with open('pickle_example.p', 'rb') as file:
26     unpickled_example = pickle.load(file) #check if the dictionary has been properly pickled
27
28 print("Unpickled dictionary:", unpickled_example)

```

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```
Unpickled dictionary: {'task': 'sweep', 'time (minutes)': 30, 'priority': 'medium'}
```

### TODO #3 Exception Handling

In order to create a demonstration of exception handling, I first reviewed this website:

<https://www.geeksforgeeks.org/python-exception-handling/>

I liked this website because it reviews many different types of errors as well as a description of the advantages and disadvantages. In order to demonstrate an error with exception handling I saved the tasks, times, and priorities from the pickle\_example dictionary as a string of text files instead of as a pickle file.

```

30 # if the pickle_example dictionary was instead stored as a string of text files:
31 with open('not_pickled_file.p', 'w') as file:
32     not_pickled = str(pickle_example)
33     # write the dictionary to the file
34     file.write(not_pickled)
35 print("Not pickled file:", not_pickled)

```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL

```
Not pickled file: {'task': 'sweep', 'time (minutes)': 30, 'priority': 'medium'}
```

### Conclusion

In conclusion, I learned that when I try to unpickle a file it is helpful to include exception handling. When I did that with this example I got a message with the UnpicklingError: invalid load key, '{'. In this case I know what caused the error (the file was not properly pickled), but including this error message could help with troubleshooting when the cause is unknown.

```

37 # try to unpickle the file
38 try:
39     with open('not_pickled_file.p', 'rb') as file:
40         unpickled_example = pickle.load(file)
41         print("Unpickled example:", unpickled_example)
42 except pickle.UnpicklingError as ue:
43     print("UnpicklingError:", str(ue)) #will show an UnpicklingError
44     #we are trying to unpickle a file that isn't actually a pickled object
45

```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL

```
UnpicklingError: invalid load key, '{'.
```