CS50's Introduction to Programming with Python

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Meal Time

(https://twitter.com/davidjmalan)

Suppose that you're in a country where it's customary to eat breakfast between 7:00 and 8:00, lunch between 12:00 and 13:00, and dinner between 18:00 and 19:00. Wouldn't it be nice if you had a program that could tell you what to eat when?

In meal.py, implement a program that prompts the user for a time and outputs whether it's breakfast time, lunch time, or dinner time. If it's not time for a meal, don't output anything at all. Assume that the user's input will be formatted in 24-hour time as #:## or ##:##. And assume that each meal's time range is inclusive. For instance, whether it's 7:00, 7:01, 7:59, or 8:00, or anytime in between, it's time for breakfast.

Structure your program per the below, wherein convert is a function (that can be called by main) that converts time, a str in 24-hour format, to the corresponding number of hours as a float. For instance, given a time like "7:30" (i.e., 7 hours and 30 minutes), convert should return 7.5 (i.e., 7.5 hours).

```
def main():
    ...

def convert(time):
    ...
```

```
if __name__ == "__main__":
    main()
```

▶ Hints

Demo



Before You Begin

Log into <u>cs50.dev (https://cs50.dev/)</u>, click on your terminal window, and execute cd by itself. You should find that your terminal window's prompt resembles the below:

\$

Next execute

mkdir meal

to make a folder called meal in your codespace.

Then execute

```
cd meal
```

to change directories into that folder. You should now see your terminal prompt as meal/\$. You can now execute

```
code meal.py
```

to make a file called meal.py where you'll write your program.

Challenge

If up for a challenge, optionally add support for 12-hour times, allowing the user to input times in these formats too:

```
#:## a.m. and ##:## a.m.
```

How to Test

Here's how to test your code manually:

Run your program with python meal.py. Type 7:00 and press Enter. Your program should output:

```
breakfast time
```

Run your program with python meal.py . Type 7:30 and press Enter. Your program should output:

```
breakfast time
```

Run your program with python meal.py . Type 12:42 and press Enter. Your program should output

```
lunch time
```

Run your program with python meal.py. Type 18:32 and press Enter. Your program should output

```
dinner time
```

Run your program with python meal.py. Type 11:11 and press Enter. Your program should output nothing.

You can execute the below to check your code using check50, a program that CS50 will use to test your code when you submit. But be sure to test it yourself as well!

check50 cs50/problems/2022/python/meal

Green smilies mean your program has passed a test! Red frownies will indicate your program output something unexpected. Visit the URL that check50 outputs to see the input check50 handed to your program, what output it expected, and what output your program actually gave.

How to Submit

In your terminal, execute the below to submit your work.

submit50 cs50/problems/2022/python/meal