

Loop Over Dictionary in Python

The screenshot shows a web browser window with the URL `campus.datacamp.com/courses/intermediate-python/loops/ex=11`. The page is titled "Loop over dictionary" and is part of a course on "Intermediate Python". It contains a code editor with the following Python code:

```
1 # Definition of dictionary
2 europe = {'spain':'madrid', 'france':'paris', 'germany':'berlin',
3           'norway':'oslo', 'italy':'rome', 'poland':'warsaw', 'austria':'vienna' }
4
5 # Iterate over europe
6
```

The instructions section says: "Write a 'for' loop that goes through each key-value pair of 'europe'. On each iteration, 'the capital of x is y' should be printed out, where x is the key and y is the value of the pair."

Question:

In Python 3, you just need the `items()` method to loop over a dictionary:

```
python
world = {"afghanistan":30.55, "albania":2.77, "algeria":39.21}
for key, value in world.items():
    print(key + " -- " + str(value))
```

Remember the `europe` dictionary that contained the names of some European countries as keys and their capitals as corresponding values? Go ahead and write a loop to iterate over it!

Instructions:

Write a `for` loop that goes through each key-value pair of `europe`. On each iteration, `the capital of x is y` should be printed out, where `x` is the key and `y` is the value of the pair.

Answer:

Here is the Python code that solves the problem:

```
# Definition of dictionary
europe = {'spain':'madrid', 'france':'paris', 'germany':'berlin',
          'norway':'oslo', 'italy':'rome', 'poland':'warsaw', 'austria':'vienna'}
```

```
# Iterate over europe
for country, capital in europe.items():
    print(f"the capital of {country} is {capital}")
```

****Explanation:****

1. ****Initialization****: The `europe` dictionary is defined, containing country names as keys and their capitals as values.
2. ****Using items()****: The `items()` method returns key-value pairs of the dictionary.
3. ****For loop****: The `for` loop iterates over the key-value pairs of the dictionary.
4. ****Print statement****: The `print()` function uses an f-string to format the output as `the capital of x is y`, where `x` is the key (country) and `y` is the value (capital).
5. ****Execution****: The loop runs once for each key-value pair in the dictionary, printing the formatted string for each country and its capital.