COMP 110

Fall 2022

Class 05 - Dictionary Practice and Sequences

Today's Goals

1. Practice with dictionaries

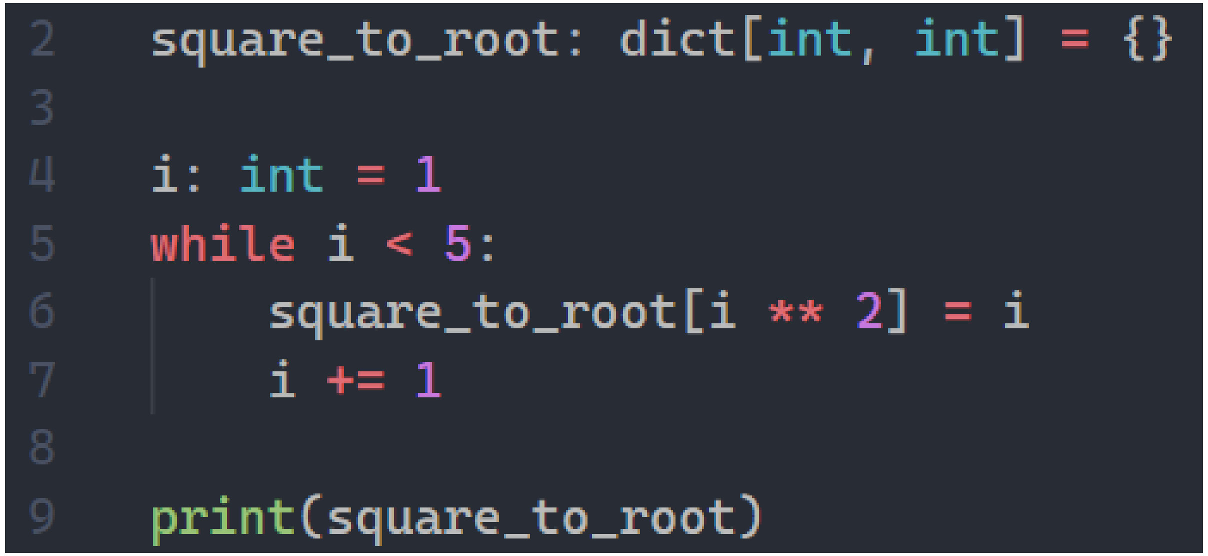
2. Dictionaries vs. Sequences

Announcements

- EX07 Dictionary Utilities - Due Wednesday 10/12 at 11:59pm

- Quiz 02 **Tuesday** 10/18
    - Will include hand-written code problems!
    - We'll get some practice with this today

Diagram 1)



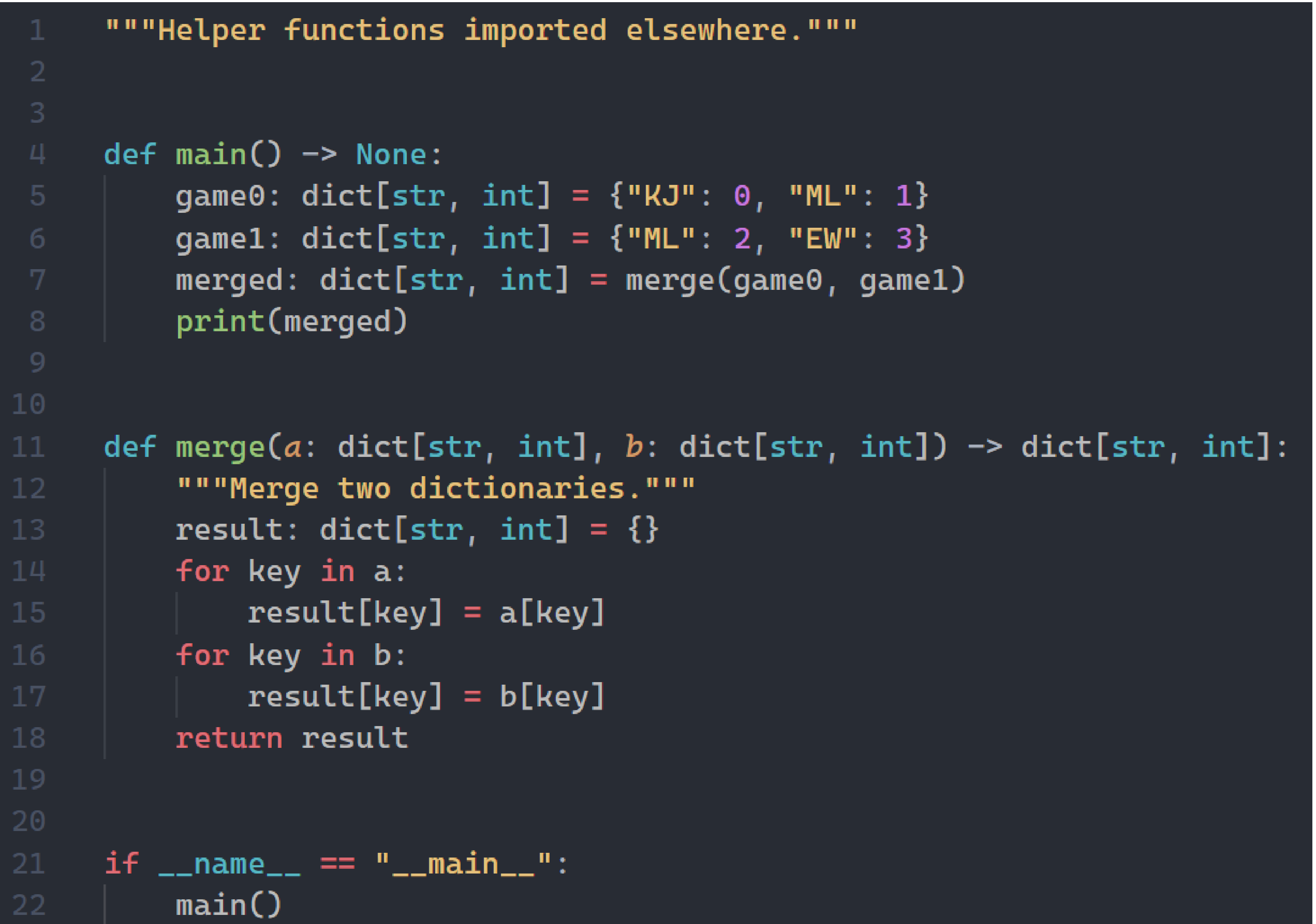
```python
square_to_root: dict[int, int] = {}

i: int = 1
while i < 5:
    square_to_root[i ** 2] = i
    i += 1

print(square_to_root)
```

Check for understanding: why couldn't square_to_root be a list[int]?

Diagram #2 - Assume __name__ is "__main__"



```python
"""Helper functions imported elsewhere."""

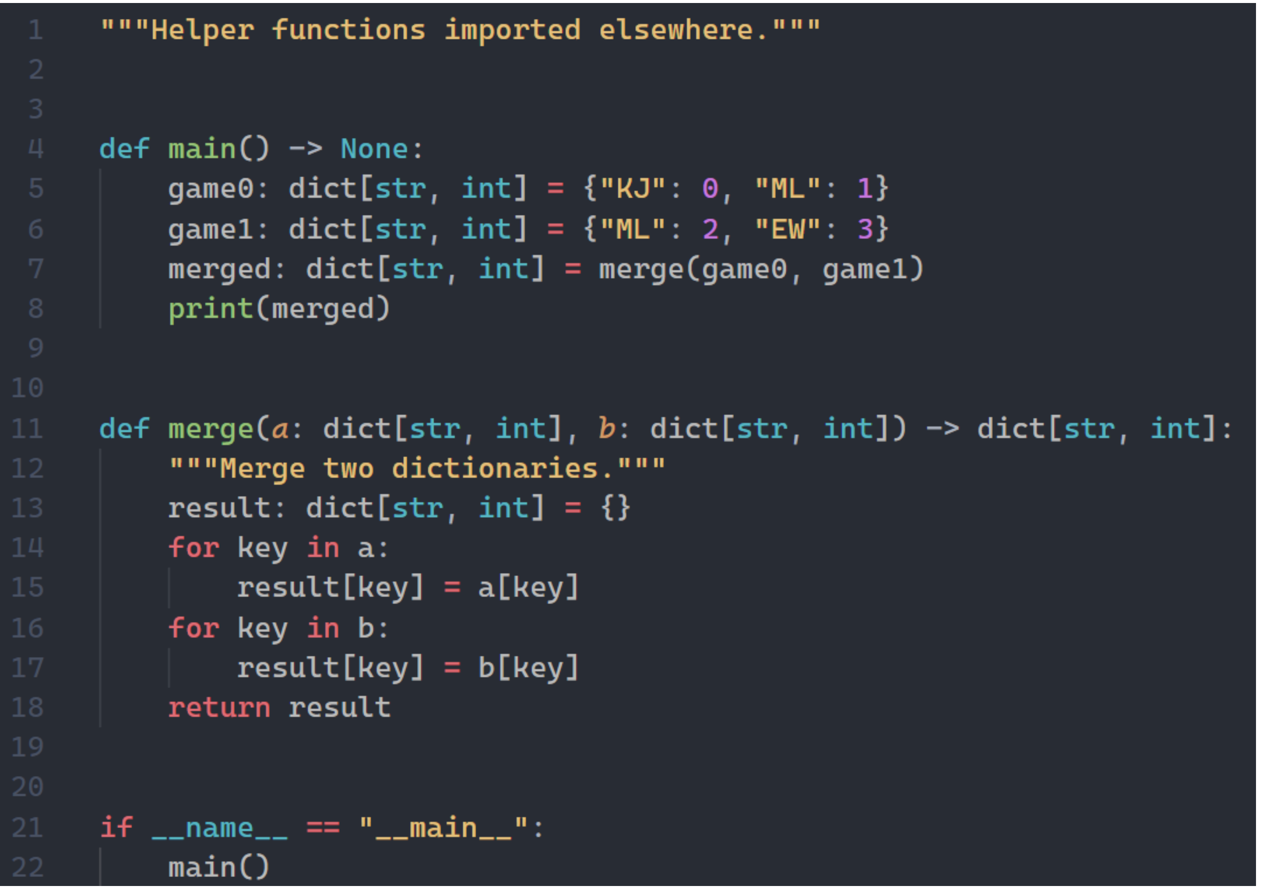

def main() -> None:
    game0: dict[str, int] = {"KJ": 0, "ML": 1}
    game1: dict[str, int] = {"ML": 2, "EW": 3}
    merged: dict[str, int] = merge(game0, game1)
    print(merged)


def merge(a: dict[str, int], b: dict[str, int]) -> dict[str, int]:
    """Merge two dictionaries."""
    result: dict[str, int] = {}
    for key in a:
        result[key] = a[key]
    for key in b:
        result[key] = b[key]
    return result


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

Diagram #2

Assume `__name__` is `"__main__"`.



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

Code Writing Practice

Write a function named zip that has two lists of strings as parameters and produces a dictionary where the keys are the items of the first list and the values are the corresponding items at the same index of the second list. You should assert that the length of the lists are equal, so that an error is produced if lists of unequal lengths are provided as arguments.

Lists vs. Dictionaries - Venn Diagram