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Topic 3: Sets and Dictionaries

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Sets

Poll Question: Making Sets

Which of the following is an invalid way of making a set?

Ⓐ   x = set(1, 2, 3)

Ⓑ   x = set([1, 2, 3])

Ⓒ   x = {1, 2, 3, 4}

Ⓓ   x = set("1234")

Poll Question: Making Sets

Which of the following is an invalid way of making a set?

- **A** `x = set(1, 2, 3)`
- **B** `x = set([1, 2, 3])`
- **C** `x = {1, 2, 3, 4}`
- **D** `x = set("1234")`

1. **set()** →Creates either a new set by either accepting and converting another sequence type (e.g., list, tuple) or creates an empty list if it's not given anything.

2. **set literal** →Written using the {} with comma separated elements inside (e.g., `{1, 2, 3}`).

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Poll Question: Updating Sets

```
1 x = {1, 2, 3}
2 y = set("aeiou")
3 x.append(4)
4 z = x + y
5 print(z)
```

A {1, 2, 3, 4, "aeiou"}

B {1, 2, 3, 4, "a", "e", "i", "o", "u"}

C ValueError

D AttributeError

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Poll Question: Updating Sets

```
1  x = {1, 2, 3}
2  y = set("aeiou")
3  x.add(4)
4  z = x + y
```

Ⓐ {1, 2, 3, 4, "aeiou"}

Ⓑ {1, 2, 3, 4, "a", "e", "i", "o", "u"}

Ⓒ ValueError

Ⓓ AttributeError

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Poll Question: Updating Sets

```
1  x = {1, 2, 3}
2  y = set("aeiou")
3  x.add(4)
4  z = x.union(y)
```

- **A** {1, 2, 3, 4, "aeiou"}
- **B** {1, 2, 3, 4, "a", "e", "i", "o", "u"}

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Poll Question: Set Tracing

How many total unique set objects are created throughout the duration of this codes runtime?

```
1 x = {1, 2, 3}
2 y = {4, 5}
3 x = x.union(y)
4 z = set("test")
5 x.update(z)
```

Ⓐ 1

Ⓑ 3

Ⓒ 4

Ⓓ 5

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Poll Question: Set Tracing

What is the final value of set1 after the following code finish's executing?

```
1  set1 = {"hi", 2, 3}
2
3  set2 = set([2, 3, 4])
4  set2.add("hi")
5
6  set1.update(set2)
```

- **A** {"hi", 2, 3, 4}
- **B** {"hi", 2, 2, 3, 3, 4}
- **C** {2, 3, 4}
- **D** AttributeError

Dictionaries

Poll Question: Accessing Element in Dictionary

Given the following dictionary, what is the correct way to access the value
with the key `"foo"`?

```
1 d = {"foo": 5, "bar": 10, "baz": }
```

A You can't. Dictionaries are unordered.

B `d[0]`

C `d("foo")`

D `d["foo"]`

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Poll Question: Accessing Element in Dictionary

What is the resulting value of `d` after the following code is executed?

```
1 d = {"foo": 5, "bar": 10, "baz": 2}
2 d["foo"] = 2
3 del d["baz"]
```

Ⓐ You can't. Dictionaries are unordered.

Ⓑ `{"foo": 2, "bar": 10}`

Ⓒ `{"foo": 5, "foo": 2, "bar": 10, "baz": 2}`

Ⓓ `{"foo": 5, "foo": 2, "bar": 10}`

Ⓔ `{"foo": 2, "bar": 10, "baz": }`

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String Formatting

Poll Question: String Formatting

What is the value of x after the following code executes:

```
1 x = "{1} {0} {1}".format("S", "O", "Y")
```

Ⓐ "S O Y"

Ⓑ "SOY"

Ⓒ "O S O"

Ⓓ "Y O Y"

Ⓔ "OSO"

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Poll Question: String Formatting

What is the value of x after the following code executes:

```
1  import math
2  x = "{1:.3f} {0:.2f} {2:.4f}".format(math.pi, math.e, math.
       tau)
```

- **A** SyntaxError
- **B** "2.718 3.14 6.2832"
- **C** "2.71 3.1 6.283"
- **D** "3.142 2.72 6.2832"

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