



Name of the Bundle	Intermediate Bundle V2	Subject	Python Programming V2
Topic	Sets	Last updated on	15 April 2026

1. What is a set in Python?

- a. A collection of key-value pairs
- b. An ordered collection of unique elements
- c. An unordered collection of unique elements
- d. A mutable sequence of characters

Ans: c. An unordered collection of unique elements

Explanation: A set in Python is an unordered collection of unique elements with no duplicate values. Unlike lists or tuples, it does not maintain insertion order.

2. How do you create an empty set in Python?

- a. `set = {}`
- b. `set = set()`
- c. `set = []`
- d. `set = ()`

Ans: b. set = set()

Explanation: An empty set is created using the `set()` function, which is a constructor. `{}` creates an empty dictionary, not a set.

3. Which of the following is a valid set in Python?

- a. `{1, 2, #, 3}`
- b. `{1: 'a', 2: 'b'}`
- c. `{1, [2, 3], 4}`
- d. `{(1, 2), (3, 4)}`

Ans: d. {(1, 2), (3, 4)}

Explanation: A set contains only immutable elements; tuples are valid, but lists are not, and `{1: 'a', 2: 'b'}` is a dictionary. Duplicates in a set are automatically removed.



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4. How do you add an item '4' to a set named 'my_set'?

- a. `my_set.add(4)`
- b. `my_set.append(4)`
- c. `my_set.insert(4)`
- d. `my_set.push(4)`

Ans: a. `my_set.add(4)`

Explanation: The `add()` method is used to add a single element to a set.

5. How do you remove an item '3' from a set 'my_set' if you're unsure it exists?

- a. `my_set.remove(3)`
- b. `my_set.discard(3)`
- c. `del my_set[3]`
- d. `my_set.pop(3)`

Ans: b. `my_set.discard(3)`

Explanation: `discard ()` removes an element if it exists in the set, but does not raise an error if it doesn't. The method `remove ()` will raise an error if it doesn't exist.

6. How can you loop through a set 'my_set' to print all its elements?

- a. `for item in my_set: print(item)`
- b. `for i in range(len(my_set)): print(my_set[i])`
- c. `while my_set: print(my_set.pop())`
- d. `print(my_set)`

Ans: a. `for item in my_set: print(item)`

Explanation: A set can be directly looped through to access each element using for loop.



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7. How do you create a union of two sets, 'set1' and 'set2'?

- a. `set1.union(set2)`
- b. `set1 + set2`
- c. `set1.join(set2)`
- d. `set1 && set2`

Ans: a. `set1.union(set2)`

Explanation: The `union()` method returns a new set with all elements from both sets. `+` operator doesn't work with sets.

8. What does the set method intersection () do?

- a. Combines two sets
- b. Returns the common elements of two sets
- c. Removes all elements of another set from one set
- d. Duplicates the set

Ans: b. Returns the common elements of two sets

Explanation: The method `intersection ()` returns a set containing only elements that are common to both sets.

9. How do you check if 'my_set' is a superset of another set 'another_set'?

- a. `my_set.issuperset(another_set)`
- b. `my_set > another_set`
- c. `my_set == another_set`
- d. `my_set.contains(another_set)`

Ans: a. `my_set.issuperset(another_set)`

Explanation: The method `issuperset()` checks if the given set has every element of the other set.



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10. How do you remove all items from a set 'my_set'?

- a. my_set.remove()
- b. my_set.discard()
- c. my_set.clear()
- d. del my_set

Ans: c. my_set.clear()

Explanation: The clear() method removes all elements from a set, making it empty. The del statement deletes the entire set from memory.

11. Which method finds the difference between two sets?

- a. difference()
- b. subtract()
- c. minus()
- d. remove()

Ans: a. difference()

Explanation: The method difference() returns a set containing elements that are in the first set but not in the second.

12. What does set.pop() do?

- a. Returns and removes a random element from the set
- b. Removes the last element of the set
- c. Deletes the set
- d. Removes the first element of the set

Ans: a. Returns and removes a random element from the set

Explanation: The pop() method removes and returns a random element from the set. Since sets are unordered, there is no 'first' or 'last' element.



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13. How do you check if two sets 'set1' and 'set2' have no elements in common?

- a. `set1.isdisjoint(set2)`
- b. `set1.intersection(set2) == set()`
- c. `set1 == set2`
- d. both a and b

Ans: d. both a and b

Explanation: The `isdisjoint()` method checks if two sets have no common elements. If their intersection is an empty set, then they have no common elements.

14. What is the output of `len({1, 2, 3, 4, 4})`?

- a. 5
- b. 4
- c. 3
- d. Error

Ans: b. 4

Explanation: Since sets cannot contain duplicate elements, the duplicate element will be discarded when the set is created.

15. What is the result of `{1, 2, 3} - {2, 3, 4}`?

- a. `{1, 4}`
- b. `{2, 3}`
- c. `{1}`
- d. `{1, 2, 3, 4}`

Ans: c. {1}

Explanation: The `-` operator returns the difference of two sets, i.e., elements present in the first set but not in the second. The literal `{1, 2, 3, 4, 4}` creates a set.



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16. What will be the output of the following Python code?

```
a = {3,4,5 }
```

```
a.update([1,2,3])
```

```
print(a)
```

- a. Error: No method called update for set data type
- b. {1,2,3,4,5}
- c. Error: the list can't be added to the set
- d. Error: duplicate item present in list

Ans: b. {1,2,3,4,5}

Explanation: The update() method adds elements from the iterable [1, 2, 3] to the set. Since 3 is already present, it is not added again. The final set is {1, 2, 3, 4, 5}.

17. What will be the output of the following Python code?

```
set1={0,0,9}; print(set1)
```

- a. {0,0,9}
- b. {0,9}
- c. {9}
- d. It will throw an error as there are two 0s while creating the set.

Ans: b.{0,9}

Explanation: The output is {0,9}. The duplicate element 0 will be discarded.



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18. What will be the output of the following Python code?

```
a = {1,2,3}
a.intersection_update([2,3,4,5])
print(a)
```

- a. Error: No method called intersection for set data type
- b. {2,3}
- c. {1,4,5}
- d. Error: duplicate item present in the list

Ans: b. {2,3}

Explanation: The method `intersection_update()` returns a set which is the intersection of both sets. i.e., only the common elements between the two sets will be updated in set A.

19. What will be the output of the following Python code?

```
a = {1,2,3}
b=a
b.remove(3)
print(a)
```

- a. {1, 2}
- b. {1,2,3,4,5}
- c. Error: the list can't be added to the set
- d. Error: duplicate item present in list

Ans: a. {1,2}

Explanation: The method `remove()` removes the specified element from the set.



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20. Which of the following Python code will create a set?

(i) `set1=set((0,9,0))`

(ii) `set1=set([0,2,9])`

(iii) `set1={}`

- a. iii
- b. i and ii
- c. ii, iii
- d. All of the above

Ans: b. i and ii

Explanation: `set((0, 9, 0))` → Creates a set from a tuple. Duplicate values are removed.
`set([0, 2, 9])` → Creates a set from a list.
`set1 = {}` → Creates an empty dictionary, not a set. An empty set is created using `set()`.

21. What will `set1|set2` do?

If `set1={"a", "b", 3}`

`set2={3,7}`

- a. Elements of set2 will get appended to set1
- b. Elements of set1 will get appended to set2
- c. A new set will be created with the elements of both set1 and set2
- d. A new set will be created with the unique elements of set1 and set2.

Ans: d. A new set will be created with the unique elements of set1 and set2.

Explanation: The `|` operator creates a new set with all unique elements from both set1 and set2. If an element appears in both sets, it appears only once in the result.



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22. What will the following Python code do?

```
set1={"a",3, "b",3}  
set1.remove(3)
```

- It removes the element with index position 3 from set1
- It removes element 3 from set1
- It removes only the first occurrence of 3 from set1
- No such function exists for set

Ans: b. It removes element 3 from set1

Explanation: It removes element 3 from set1. There will be only one 3 in the set because duplicate 3 will be removed when the set is created.

23. What will be the result of the Python code?

```
set1={1,2,3}  
set1.add(4)  
set1.add(4)  
print(set1)
```

- {1,2,3,4}
- {1,2,3}
- {1,2,3,4,4}
- It will throw an error as the same element is added twice

Ans: a. {1,2,3,4}

Explanation: The output for the following Python code is {1,2,3,4}. A duplicate element cannot be added to a set, and the set remains unchanged.



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24. If $a = \{5,6,7,8\}$, which of the following statements is false?

- a. `print(len(a))`
- b. `print(min(a))`
- c. `a.remove(5)`
- d. `a[2]=45`

Ans: d. `a[2]=45`

Explanation: Set elements cannot be accessed by index because sets are unordered.

25. If $a=\{5,6,7\}$, what happens when `a.add(5)` is executed?

- a. $a=\{5,5,6,7\}$
- b. $a=\{5,6,7\}$
- c. Error, as there is no add function for set data type
- d. Error as 5 already exists in the set

Ans: b. $a=\{5,6,7\}$

Explanation: The `add()` method adds an element to a set. Duplicate values are not added since sets do not allow duplicates.



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26. What will be the output of the following Python code?

a={4,5,6}

b={2,8,6}

a-b

a. {4,5}

b. {6}

c. Error as unsupported operand type for set data type

d. Error: the duplicate item 6 is present in both sets

Ans: a. {4,5}

Explanation: – operator gives the set of elements in set a but not in set b.

27. What will be the output of the following Python code?

a={5,6,7,8}

b={7,8,10,11}

a^b

a. {5,6,7,8,10,11}

b. {7,8}

c. Error as unsupported operand type of set data type

d. {5,6,10,11}

Ans: d. {5,6,10,11}

Explanation: The ^ operator returns a set of elements in set A or set B, but not in both (symmetric difference).



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28. What will be the output of the following Python code?

```
s={5,6}
```

```
s*3
```

- Error as unsupported operand type for set data type
- {5,6,5,6,5,6}
- {5,6}
- Error as multiplication creates duplicate elements, which isn't allowed

Ans: a. Error as unsupported operand type for set data type

Explanation: The multiplication operator isn't valid for the set data type.

29. What will be the output of the following Python code?

```
a={5,6,7,8}
```

```
b={7,5,6,8}
```

```
print( a==b)
```

- True
- False
- None
- No output

Ans: a.True

Explanation: It is possible to compare two sets, and the order of elements in both sets doesn't matter if the values of the elements are the same.



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30. What will be the output of the following Python code?

```
a={3,4,5}
```

```
b={5,6,7}
```

```
print(a|b)
```

- a. Invalid operation
- b. {3, 4, 5, 6, 7}
- c. {5}
- d. {3,4,6,7}

Ans: b. {3, 4, 5, 6, 7}

Explanation: The operation in the above piece of code is a union operation. This operation produces a set of elements in both set A and set B.

31. Is the following Python code valid?

```
a={3,4,{7,5}}
```

```
print(a[2][0])
```

- a. Yes, 7 is printed
- b. Error: elements of a set can't be printed
- c. Error, subsets aren't allowed
- d. Yes, {7,5} is printed

Ans: c. Error, subsets aren't allowed

Explanation: In Python, elements of a set must not be mutable, and sets are mutable. Thus, subsets can't exist.



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32. What happens if you try to index a set?

- a. It works fine.
- b. It gives an error.
- c. It removes the item.
- d. It sorts the set.

Ans: b. It gives an error.

Explanation: Sets are unordered collections, which means you cannot index them. Attempting to index a set will result in a TypeError.

33. Which of the following will check if the value "apple" is in the set thisset?

- a. apple in thisset
- b. thisset in apple
- c. apple" in thisset
- d. apple" in thisset()

Ans: a. apple in thisset

Explanation: The correct syntax to check for membership in a set is using the in keyword, e.g., apple in thisset.

34. Which method is used to add one item to a set?

- a. append()
- b. insert()
- c. add()
- d. update()

Ans: c. add()

Explanation: The add() method is used to add a single element to a set. It doesn't accept multiple items at once.



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35. Which method will not raise an error when trying to remove an item that doesn't exist in the set?

- a. remove()
- b. pop()
- c. discard()
- d. clear()

Ans: c. discard()

Explanation: The discard() method removes an item from a set if it exists and does not raise an error if the item is not found.

36. What will happen when using the remove() method on an empty set?

- a. It will add a random item to the set.
- b. It will return None.
- c. It will raise an error.
- d. It will clear the set.

Ans: c. It will raise an error.

Explanation: Calling the remove() method on an empty set will raise a KeyError because there are no items to remove.

37. What is the return value of the pop() method in sets?

- a. None
- b. The last item in the set
- c. A random item from the set
- d. Error

Ans:c. A random item from the set

Explanation: The pop() method removes and returns a random item from the set. Sets are unordered, so the item returned is not predictable.



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38. Which method is used to remove all elements from a set in Python?

- a. clear()
- b. discard()
- c. remove()
- d. pop()

Ans: a. clear()

Explanation: The clear() method removes all items from a set, leaving it empty.

39. What does the copy() method do in Python?

- a. Creates a reference to the original set.
- b. Removes items from the set.
- c. Creates a new set that is a copy of the original set.
- d. Adds new items to the set.

Ans: c. Creates a new set that is a copy of the original set.

Explanation: copy() creates a new set with the same elements, but modifications to the copy do not affect the original set.

40. Which method is used to find the elements only in one set and not in the other?

- a. difference()
- b. subtract()
- c. remove()
- d. pop()

Ans: a. difference()

Explanation: The difference() method returns a set containing elements that are present in the first set but not in the second.



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41. What is the purpose of the intersection() method in sets?

- To find the elements that are only in the first set.
- To find the elements that are in both sets.
- To remove elements from the set.
- To combine two sets into one.

Ans: b. To find the elements that are in both sets.

Explanation: The intersection() method returns a set containing elements that are common to both sets.

42. Which method removes items from the set that are not present in other specified sets?

- difference_update()
- union_update()
- intersection_update()
- clear()

Ans: c. intersection_update()

Explanation: The intersection_update() method updates the set by removing items that are not present in other specified sets, keeping only the common elements.

43. Which method updates a set by keeping only elements that are unique to either of the sets?

- difference_update()
- intersection_update()
- symmetric_difference_update()
- update()

Ans: c. symmetric_difference_update()

Explanation: This method keeps elements that are not common in both sets (removes the intersection).



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44. What is the result of the `difference_update()` method?

- a. Returns a new set
- b. Modifies the original set
- c. Returns a list
- d. Creates a tuple

Ans: b. Modifies the original set

Explanation: `difference_update()` changes the original set instead of creating a new one.

45. What does the `isdisjoint()` method return if two sets have common elements?

- a. True
- b. False
- c. None
- d. 0

Ans: b. False

Explanation: The `isdisjoint()` method returns True if two sets have no common elements and False if they share any common elements.

46. What does the `issuperset()` method check in Python?

- a. Whether two sets have no common elements.
- b. Whether one set contains all elements of another set.
- c. Whether two sets are equal.
- d. Whether one set is a subset of another.

Ans: b. Whether one set contains all elements of another set.

Explanation: The `issuperset()` method checks if one set contains all elements of another set. It returns True if the set is a superset of the other set.



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47. What will `A.issubset(B)` return if $A = \{1, 2\}$ and $B = \{1, 2, 3\}$?

- a. True
- b. False
- c. None
- d. 0

Ans: a. True

Explanation: The `issubset()` method checks if all elements of set A are present in set B. Since $\{1, 2\}$ is a subset of $\{1, 2, 3\}$, it will return True.

48. Which method is used to find the symmetric difference between two sets in Python?

- a. `difference()`
- b. `symmetric_difference()`
- c. `exclusive_difference()`
- d. `union()`

Ans: b. `symmetric_difference()`

Explanation: The `symmetric_difference()` method returns a set containing elements that are in either of the sets, but not in both.

49. What will `A.union(B)` return if $A = \{1, 2, 3\}$ and $B = \{3, 4, 5\}$?

- a. $\{1, 2, 3, 4, 5\}$
- b. $\{3\}$
- c. $\{1, 2\}$
- d. $\{3, 4\}$

Ans: a. $\{1, 2, 3, 4, 5\}$

Explanation: The `union()` method combines both sets, returning a new set with all unique elements from both sets.