Name of the Bundle	Intermediate Bundle V1	Subject	Python Programming V1
Topic	Operators	Last updated on	17 August 2024

1. In the Python statement x = a + 5 - b, what are the operands?
   a. x, a, b
   b. a,5, b
   c. +,_
   d. =

Ans: b. a,5, b

Explanation: In Python a, b are the operands.

2. What is the value of the expression `100 / 25`?
   a. 4
   b. 4.0
   c. 3.875
   d. 4.2

Ans: b. 4.0

Explanation: The division operator (/) always results in a float even if both the operands are integers.

3. Can floating-point numbers be accurately compared for equality using the == operator?
   a. Yes
   b. No

Ans: b. No

Explanation: It is not possible to compare floating – point values for exact quality. It is because of the nature in which floating-point numbers are represented in binary.

Name of the Bundle	Intermediate Bundle V1	Subject	Python Programming V1
Topic	Operators	Last updated on	17 August 2024

4. What is the output of the following code

```
x = 6
y = 2
print (x ** y)
print (x // y)
```

a. 66
   0
b. 36
   0
c. 66
   3
d. 36
   3

Ans: d. 36
3

Explanation: ** is the exponential operator and '//' is a floor division operator. x ** y: This calculates x raised to the power of y. So, 6 ** 2 is 6 squares, which is 36.

x // y: This performs floor division, which divides x by y and then rounds down to the nearest integer. So, 6 // 2 is 3

Name of the Bundle	Intermediate Bundle V1	Subject	Python Programming V1
Topic	Operators	Last updated on	17 August 2024

5. 4 is 100 in binary and 11 is 1011. What is the output of the following bitwise operators?

```
a = 4
b = 11
print (a | b)
print (a >> 2)
```

a. 15
   1

b. 14
   1

c. 15.0
   1.0

d. 14.0
   1.0

Ans: a.15
   1

Explanation: The first is an or operator and second is a right shift operator.

6. What is the value of this expression 2**3**2?
   a. 512
   b. 12
   c. 16
   d. 18

Ans: a. 512

Explanation: Exponential operator is evaluated from right to left. This expression is equal to (2**(3**2)).

Name of the Bundle	Intermediate Bundle V1	Subject	Python Programming V1
Topic	Operators	Last updated on	17 August 2024

7. If m is true and n is false, then _____.
    a. m and n are true
    b. m and n are false
    c. m or n is false
    d. If m is true, then n must be true

Ans: b. m and n are false

Explanation: m is True and n is False the m and an operation result in 'False'

8. Which of the following is a valid arithmetic operator in Python?
    a. //
    b. ?
    c. !
    d. And

Ans: a. //

Explanation: // is the floor division operator in python. Others are not valid operators.

9. Which one of these is floor division?
    a. /
    b. //
    c. %
    d. None of the mentioned

Ans: b. //

Explanation: Operator '//' is called a floor division operator. Floor division divides one number by another and rounds down to the nearest whole number (integer), even if the result of the division is not an integer.

Name of the Bundle	Intermediate Bundle V1	Subject	Python Programming V1
Topic	Operators	Last updated on	17 August 2024

10. Write the output of the following:

print (True and (False or True))

a. True
b. False
c. Error
d. None of the above

Ans: a. True

Explanation: In this expression first the sub expression inside the parenthesis will be executed and later the rest of the expression will be executed. First the sub expression results in 'True' and the rest of the operation results in a 'True'.

11. What is the value of the following expression?

21//4 + 6/3

a. 7
b. 7.0
c. 7.25
d. 7.33

Ans: b. 7.0

Explanation: The expression 21 // 4 + 6 / 3 evaluates to 5 + 2.0, which equals 7.0.

12. Write the output of the following code:

print ((15 // 2 ** 2) * 'A')

a. 3
b. Error
c. AAA
d. 4

Ans: c. AAA

Explanation: (15 // 2 ** 2) gives 3 and 3* 'A' results in 'AAA'.

Name of the Bundle	Intermediate Bundle V1	Subject	Python Programming V1
Topic	Operators	Last updated on	17 August 2024

13. Which of these arithmetic operators will evaluate first?

    a. +
    b. –
    c. **
    d. %
    e. //

Ans: c. **

Explanation: Out of the above operators, exponentiation (**) operator has the highest precedence and that will be one to be executed first.

14. Which of the following logical operators will evaluate first?

    a. and
    b. or
    c. not
    d. is not

Ans: c. not

Explanation: Here are logical (not, and & or) and membership operators (is not). Among logical and membership operators, logical operators take precedence. Within logical operators, the order of precedence is as follows: not, and, and or.

15. Which of the following operators can be used as replication operators?

    a. +
    b. *
    c. **
    d. /

Ans: b. *

Explanation: '*' is the replication operator. It is used to repeat a sequence (e.g., a string or a list) a certain number of times.

Name of the Bundle	Intermediate Bundle V1	Subject	Python Programming V1
Topic	Operators	Last updated on	17 August 2024

16. What does the following code print to the console?

Print ("lion" == "cat" or 99! = 88)

a. False
b. True
c. Value Error occurs
d. Type Error occurs

Ans: b. True

Explanation: "lion" == "cat" evaluates to False and 99! = 88 evaluates to True.

False or True evaluates to True for the final result.

17. Which of the following expressions is an example of type casting?

a. 4.0 + float (6)
b. 5.3 + 6.3
c. int (3.1) + 7
d. both a and c

Ans: d. both a and c

Explanation: Type casting, also known as type conversion, is the process of converting a value from one data type to another. Type casting using built-in functions. int () and float () are built in functions for type casting.

18. The operator _____tells if an element is present in a sequence or not.

a. exists
b. in
c. into
d. inside

Ans: b. in

Explanation: The 'in' operator' which is a membership operator is used to find if an element is present in a collection such as a string, list, tuple, or set.

Name of the Bundle	Intermediate Bundle V1	Subject	Python Programming V1
Topic	Operators	Last updated on	17 August 2024

19. What is the output of the following?

print (2 * 3 ** 3 * 4)

a. 216
b. 864
c. 72
d. Error

Ans: a. 216

Explanation: 3 ** 3 is calculated first, resulting in 27. Then, 2 * 27 is calculated, resulting in 54. Finally, 54 * 4 is calculated, resulting in the final value 216.

20. What happens when '2' == 2 is executed?

a. False
b. True
c. ValueError occurs
d. TypeError occurs

Ans: a. False

Explanation: In a comparison, both the value and the type must match. Since the types are different, the expression evaluates to False.

21. What is the output of the following assignment operator?

```
y = 10
x = y += 2
print(x)
```

a. 12
b. 10
c. SyntaxError
d. Type Error

Ans: c. SyntaxError

Explanation:x = y += 2 causes an error because y += 2 has no return value, unlike y += 2; x = y.

Name of the Bundle	Intermediate Bundle V1	Subject	Python Programming V1
Topic	Operators	Last updated on	17 August 2024

22. Which of the following arithmetic operators cannot be used with strings in python?
    a. +
    b. *
    c. -
    d. All of the mentioned

Ans: c. -

Explanation: The '-' operator is not defined for strings.

23. Operators with the same precedence are evaluated in which manner?
    a. Left to Right
    b. Right to Left
    c. Can't say
    d. None of the mentioned

Ans: a. Left to Right

Explanation: In Python, when operators have the same precedence, they are evaluated from left to right. This is called left-associativity.

24. Which operator is also called a Comparative operator?
    a. Arithmetic
    b. Relational
    c. Logical
    d. Assignment

Ans: b. Relational

Explanation: In python, relational operators are called comparative or comparison operators.

Name of the Bundle	Intermediate Bundle V1	Subject	Python Programming V1
Topic	Operators	Last updated on	17 August 2024

25. What is the order of precedence in python?

i) Parentheses

ii) Exponential

iii) Multiplication

iv) Division

v) Addition

vi) Subtraction

a. i, ii, iii, iv, v, vi
b. ii, i, iii, iv, v, vi
c. ii, i, iv, iii, v, vi
d. i, ii, iii, iv, vi, v

Ans: a. i, ii, iii, iv, v, vi

Explanation: For order of precedence, just remember this PEMDAS (similar to BODMAS).

26. Which of the following operators has its associativity from right to left?

a. +
b. //
c. %
d. **

Ans: d.**

Explanation: All of the operators shown above have associativity from left to right, except exponentiation operator (**) which has its associativity from right to left.

Name of the Bundle	Intermediate Bundle V1	Subject	Python Programming V1
Topic	Operators	Last updated on	17 August 2024

27. What will be the output of the following Python code snippet if x=1?

```
x<<2
```

a. 8
b. 1
c. 2
d. 4

Ans: d. 4

Explanation: Shift left operation is equal to multiplying the number by 2. The binary equivalent of 1 is 0001. x<<2 means left shift performed twice on x. This shift gives the value: 0100, which is integer 4.

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

```
bin (29)
```

a. '0b10111'
b. '0b11101'
c. '0b11111'
d. '0b11011'

Ans: b. 0b11101

Explanation: bin () is a built-in function to convert an integer into its binary equivalent. The binary form of the number 29 is 11101. Hence the output of this expression is '0b11101'. Prefix for binary is 0b.

Name of the Bundle	Intermediate Bundle V1	Subject	Python Programming V1
Topic	Operators	Last updated on	17 August 2024

29. What will be the value of x in the following Python expression, if the result of that expression is 2?

x>>2

a. 8
b. 4
c. 2
d. 1

Ans: a. 8

Explanation: Shift right operation is equal to dividing the number by 2. x is equal to 8 (1000), then x>>2 (bitwise right shift) yields the value 0010, which is equal to 2. Hence the value of x is 8.

30. What will be the output of the following Python expression if x=15 and y=12?

x & y

a. b1101
b. 0b1101
c. 12
d. 1101

Ans: c.12

Explanation: The symbol '&' represents bitwise AND in Python. The binary form of 15 is 1111 and that of 12 is 1100. Hence on performing the bitwise AND operation, we get 1100, which is equal to 12.

Name of the Bundle	Intermediate Bundle V1	Subject	Python Programming V1
Topic	Operators	Last updated on	17 August 2024

31. What is the value of the following Python expression?

bin(0x8)

a. '0bx1000'
b. 8
c. 1000
d. '0b1000'

Ans: d.'0b1000'

Explanation: bin () converts the given number into its binary equivalent. The prefix 0x specifies that the value is hexadecimal. When we convert this hexadecimal value to binary form, we get the result as: '0b1000'.

32. Which one of the following has the same precedence level?

a. Addition and Subtraction
b. Multiplication, Division and Addition
c. Multiplication, Division, Addition and subtraction
d. Addition and Multiplication

Ans: a. Addition and Subtraction

Explanation: Addition and Subtraction have the same precedence level.

33. Which is the correct operator for power (x, y)?

a. x^ y
b. x**y
c. x^^y
d. None of the mentioned

Ans: b. x**y

Explanation: In python, power operator is '**'. Here, x**y i.e. 2**5=32.

Name of the Bundle	Intermediate Bundle V1	Subject	Python Programming V1
Topic	Operators	Last updated on	17 August 2024

34. Which of the following is not Logical operator?

a. and

b. or

c. not

d. (=) Assignment

Ans: d. (=) Assignment

Explanation: The '=' operator is an assignment operator.

35. Which operator is also called a Conditional operator?

a. Ternary

b. Relational

c. Logical

d. Assignment

Ans: a. Ternary

Explanation: The ternary operator is also called a conditional operator.

36. Which of the following is true?

a. 9%2=4

b. 9//2=4

c. 9/2=2

d. None of the above

Ans: b. 9//2=4

Explanation: Expression 9%2 will give 1(reminder after division). Expression 9//2 will give 4(divides and rounds it to the nearest integer). Expression 9/2 will give 4.5(divides and returns a float).

Name of the Bundle	Intermediate Bundle V1	Subject	Python Programming V1
Topic	Operators	Last updated on	17 August 2024

37. Which of the following is true?

a. Modulus operation (%) always returns an integer
b. Floor division (//) always returns an integer
c. Division (/) always returns an integer
d. None of the above

Ans: b. Floor division (//) always return an integer

Explanation: Modulus division (%) may return a float value if the operands are floats. But the floor division (//) will always return an integer value.

38. What will be the output of the following?

```
x="X"
y="X"
print (x is y)
```

a. False
b. True
c. 0
d. 1

Ans: b. True

Explanation: Internally string variables x and y will point to the same location in the memory which holds 'X'. So, they refer to the same object. The id () function can be used to check if two variables refer to the same object in memory. In this case variables x and y will return the same id.

Name of the Bundle	Intermediate Bundle V1	Subject	Python Programming V1
Topic	Operators	Last updated on	17 August 2024

39. An expression 'str' in 'string' will return _____.
    a. True
    b. False
    c. Error
    d. 0

Ans: a. True

Explanation: The 'in' operator is used to check if a substring or element is present in a sequence (like a string). It returns 'True' if it is present in the larger string and 'False' if it is not present.

40. Which of the following is a valid membership operator?
    a. in
    b. not in
    c. Both of the above
    d. None of the above

Ans: c. Both of the above

Explanation: In Python, there are two membership operators: 'in' and 'not in'.

41. Binary operators are operators with _____ operands
    a. 1
    b. 2
    c. 3
    d. 4

Ans: b. 2

Explanation: Binary operators have two operands. Unary operators have one operator.

Name of the Bundle	Intermediate Bundle V1	Subject	Python Programming V1
Topic	Operators	Last updated on	17 August 2024

42. bool (0) evaluates to _____.

a. False
b. True
c. Error
d. None of the above

Ans: a. False

Explanation: In Python True represents any nonzero value (which includes negative numbers too) and False represents a zero value.

43. Write the output of the following:

```
a = 'India'
a *= 3
print(a)
```

a. IndiaIndiaIndia
b. India3
c. 3India
d. None of the above

Ans: a. IndiaIndiaIndia

Explanation: In Python, the * operator is commonly known as the "repetition" or "replication" operator. It is used to repeat a sequence (such as a string or a list) a specified number of times.

44. print (3! = 4) will evaluates _____.

a. True
b. False
c. Error
d. None of the above

Ans: a. True

Explanation: The comparison operator! = is used to check if two objects are not the same.

Name of the Bundle	Intermediate Bundle V1	Subject	Python Programming V1
Topic	Operators	Last updated on	17 August 2024

45. _____ is defined as a combination of constants, variables, and operators.

a. Statement
b. Expression
c. Operation
d. Equation

Ans: b. Expression

Explanation: An expression is a combination of operators and operands. This operand could be constants, variables or operators.

46. Which of the following is invalid logical operator in python?

a. and
b. or
c. not
d. xor

Ans: d. xor

Explanation: Operators and, or & not are logical operators whereas xor is a bitwise operator.

47. Which of the following is an invalid relational operator in Python?

a. !=
b. ==
c. >=
d. <>

Ans: d. <>

Explanation: Operators! =. == & >= are all comparison operators whereas <> is not a valid operator in Python.

Name of the Bundle	Intermediate Bundle V1	Subject	Python Programming V1
Topic	Operators	Last updated on	17 August 2024

48. Statement x += y is equivalent to _____.

a. x = x + y
b. x = x * y
c. y = x + y
d. y = y * x

Ans: a. x = x + y

Explanation: The statement x += y is called an "augmented assignment statement" in Python. It is a shorthand notation for x = x + y. Both these forms have the same level of efficiency.

49. Which of the following is invalid expression?

a. 250%2
b. 32 / 4 + 7
c. "Global" + "Citizen"
d. in

Ans: d. in

Explanation: 'in' is a membership operator. The others are valid expressions in Python.

50. Which escape sequence represents a newline character?

a. \n
b. \e
c. \t
d. \T

Ans: a. \n

Explanation: '\n' represents a newline character. '\t' represents a tab. '\e' and '\T' are not valid escape sequences in Python.

Name of the Bundle	Intermediate Bundle V1	Subject	Python Programming V1
Topic	Operators	Last updated on	17 August 2024

51. Write the output of following code:

n1 = 5

n2 = n1

n2 is n1

a. True
b. False
c. Error
d. 5

Ans: a. True

Explanation: Since n1 and n2 both refer to the same object, the is operator returns True.

52. What will be the data type of x after the following statement?

x = 1/2

a. Integer
b. List
c. String
d. Float

Ans: d. Float

Explanation: In Python, the division operator / always results in a float, so x will be of type float.

53. What is the output of the following?

print (0.2+0.4==0.6)

a. True
b. False
c. Error
d. Depends on machine

Ans: b. False

Explanation: Due to floating-point precision issues in Python, the result of 0.2 + 0.4 may not be exactly 0.6, leading to False when compared directly.

Name of the Bundle	Intermediate Bundle V1	Subject	Python Programming V1
Topic	Operators	Last updated on	17 August 2024

54. Which of the following functions can be used to find the data type of a variable?

a. data ()
b. type ()
c. true ()
d. str ()

Ans: b. type ()

Explanation: Use type() to get the data type of a variable. For example, type(5) returns <class 'int'>.

55. What error gets generated when a string is tried to change?

a. Syntax error
b. No error
c. Type error
d. Compilation error

Ans: c. Type error

Explanation: Trying to change a string's content results in a TypeError because strings are immutable.

56. What is the result of the expression 4 < 5 and 5 < 6?

a. True
b. False
c. Error
d. None of the above

Ans: a. True

Explanation: The expression 4 < 5 and 5 < 6 evaluates to True because both conditions 4 < 5 and 5 < 6 are true.

Name of the Bundle	Intermediate Bundle V1	Subject	Python Programming V1
Topic	Operators	Last updated on	17 August 2024

57. What does the expression not(10 == 10) evaluate to?
    a. True
    b. False
    c. Error
    d. None of the above

Ans: b. False

Explanation: The expression not (10 == 10) evaluates to False.

58. What arithmetic operators cannot be used with strings in Python?
    a. *
    b. -
    c. +
    d. All of the mentioned

Ans: b. -

Explanation: Thus, - is the operator that cannot be used with strings.

59. What does the 'or' operator do?
    a. Returns True if at least one operand is true
    b. Returns True if both operands are true
    c. Returns the first false value
    d. None of the above

Ans: a. Returns True if at least one operand is true

Explanation: The or operator returns True if at least one of the conditions (operands) is True. If both conditions are False, it returns False.

Name of the Bundle	Intermediate Bundle V1	Subject	Python Programming V1
Topic	Operators	Last updated on	17 August 2024

60. Evaluate the following expression in Python?

24 // 4 // 4

a. 1
b. 2
c. 24
d. 1.5

Ans: a. 1

Explanation: The expression 24 // 4 // 4 evaluates to 1.

61. Evaluate the following arithmetic expression in Python ?

2 ** 2 ** 3

a. 256
b. 48
c. 64
d. 512

Ans: d. 512

Explanation: The result of 2 ** 2 ** 3 is indeed 256.

62. Which of the following operators has the highest precedence?

a. *
b. //
c. **
d. /

Ans: c. **

Explanation: The operator ** (exponentiation) has the highest precedence.

Name of the Bundle	Intermediate Bundle V1	Subject	Python Programming V1
Topic	Operators	Last updated on	17 August 2024

63. Which operator has its associativity from right to left?

a. +
b. //
c. %
d. **

Ans: d. **

Explanation: ** (exponentiation) evaluates from right to left.

The other operators (+, //, %) have left-to-right associativity.

64. How can you concatenate two strings in Python?

a. Using the concat() method
b. Using the join() method
c. Using the & operator
d. Using the + operator

Ans: d. Using the + operator

Explanation: You can concatenate (combine) two strings using the + operator. For example, "hello" + " world" results in "hello world".

65. How can a string be repeated?

a. using the repeat() method
b. using the concat() method
c. using the * operator
d. using + operator

Ans: c. using the * operator

Explanation: You can repeat a string by multiplying it with an integer using the * operator. For example, "hello" * 3 results in "hellohellohello".