Validation OTP for CodeTantra | CodeTantra Edu

csmssengg.codetantra.com/secure/topic-details1.jsp?cid=65969c70422c5e79de0c160e&tid=65969c71422c5e79de0c1638&bd=AMTc3M19jdF9jaA==

Q1

100%

L9 / Arithmetic Operators / Arithmetic Operators - An overview

Python supports the following 7 arithmetic operators.

Operator Expression and its result	Operation	
+	Adds values on either side of the operator.	10 + 20 = 30
-	Subtracts right hand operand from left hand operand.	20 - 10 = 10
*	Multiplies values on either side of the operator	11 * 11 = 121
/	Divides left hand operand by right hand operand	23 / 2 = 11.5
**	Performs exponential (power) calculation on operators	2 ** 3 = 8
%	Divides left hand operand by right hand operand and returns remainder	12 % 5 = 2

- [x] **Python** supports **7** arithmetic operators.
- [x] An exponent operator is represented by ** in **Python**.
- [ ] If the result of a division of two numbers is a floating point number , then it is rounded off to the nearest number.This is called **Modulus division**.
- [ ] The result of the division is not considered, but the remainder is considered, it is known as **Floor Division**.
- [x] // is called as Floor division operator.

Close Reset Submit

Type here to search

Starting soon

ENG US 1:15 PM 10/05/2024

Validation OTP for CodeTantra | CodeTantra Edu

csmssengg.codetantra.com/secure/topic-details1.jsp?cid=65969c70422c5e79de0c160e&tid=65969c71422c5e79de0c1638&bd=AMTc3M19jdF9jaA==

Q2

100%

L9 / Arithmetic Operators / Using Arithmetic Operators

Write a program to read two `int` inputs from the user and display the results of the following arithmetic operations:

Sample Input and Output:

```
num1: 12
num2: 4
12 + 4 = 16
12 - 4 = 8
12 * 4 = 48
12 / 4 = 3.0
12 ** 4 = 20736
12 % 4 = 0
12 // 4 = 3
```

Addexample1.py

Submit

```python
#Arithmetic Operators are +, -, *, /, **, %, //
num1 = int(input("num1: "))
num2 = int(input("num2: "))

# print num1+num2
add=num1+num2
print(f'{num1} + {num2} = {add}')
# print num1-num2
sub=num1-num2
print(f'{num1} - {num2} = {sub}')
# print num1*num2
mul=num1*num2
print(f'{num1} * {num2} = {mul}')
# print num1/num2
div=num1/num2
print(f'{num1} / {num2} = {div}')
# print num1**num2
exp=num1**num2
print(f'{num1} ** {num2} = {exp}')
# print num1%num2
mod=num1%num2
print(f'{num1} % {num2} = {mod}')
# print num1//num2
flr=num1//num2
print(f'{num1} // {num2} = {flr}')

```

Close Reset Submit

Type here to search

Starting soon

ENG US 1:15 PM 10/05/2024

Validation OTP for CodeTantra | CodeTantra Edu

csmssengg.codetantra.com/secure/topic-details1.jsp?cid=65969c70422c5e79de0c160e&tid=65969c71422c5e79de0c1638&bd=AMTc3M19jdF9jaA==

Q3

100%

L9 / Arithmetic Operators / Writing a program on arithmetic operators

Write a program to read two `int` inputs from the user and perform the following arithmetic operations `addition`, `subtraction`, `multiplication`, and `division` and print the result.

Sample Input and Output:

```
Addition of 40 and 10 = 50
Subtraction of 40 and 10 = 30
Multiplication of 40 and 10 = 400
Division of 40 and 10 =  4.0
```

Sample Test Cases

Test Case 1:

Expected Output:

```
num1: 40
num2: 20
Addition of 40 and 20 = 60
Subtraction of 40 and 20 = 20
Multiplication of 40 and 20 = 800
```

Arithexample2.py

Submit

```
num1 = int(input ("num1: "))
num2 = int(input ("num2: "))

# Print the addition of num1 and num2
a=num1+num2
print(f'Addition of {num1} and {num2} = {a}')

# Print the subtraction of num1 and num2
s=num1-num2
print(f'Subtraction of {num1} and {num2} = {s}')

# Print the multiplication of num1 and num2
m=num1*num2
print(f'Multiplication of {num1} and {num2} = {m}')

# Print the division of num1 and num2
d=num1/num2
print(f'Division of {num1} and {num2} = {d}')

```

Close | Reset | Submit

Type here to search

Starting soon

ENG US 1:15 PM 10/05/2024

Validation OTP for CodeTantra | CodeTantra Edu

csmssengg.codetantra.com/secure/topic-details1.jsp?cid=65969c70422c5e79de0c160e&tid=65969c71422c5e79de0c1638&bd=AMTc3M19jdF9jaA==

Q4

100%

L9 / Arithmetic Operators / Some more arithmetic operators

Write the program to read two `integer` inputs from the user and perform the following arithmetic operations over it.

- Calculate Exponent of num1 and num2
- Calculate Modulus Division
- Calculate Floor Division

During execution, the program should print the message on the console as mentioned in the sample test case

Sample Input and Output:

```
num1: 10
num2: 5
Exponent of 10 with 5 = 100000
Modulus of 10 and 5 = 0
Floor Division of 10 and 5 = 2
```

Sample Test Cases

Test Case 1:

Expected Output:

Arithexample3.py

Submit

```
num1 = int(input("num1: "))
num2 = int(input("num2: "))

# Print the exponenet of num1 to the power of num2
exp=num1**num2
print(f'Exponent of {num1} with {num2} = {exp}')

# Print the modulous function of num1 and num2
m=num1%num2
print(f'Modulus of {num1} and {num2} = {m}')

# Print the floor division function of num1 and num2
d=num1//num2
print(f'Floor Division of {num1} and {num2} = {d}')
```

Close Reset Submit

Type here to search

34°C Mostly sunny

ENG US 1:16 PM 10/05/2024

Validation OTP for CodeTantra | CodeTantra Edu

csmssengg.codetantra.com/secure/topic-details1.jsp?cid=65969c70422c5e79de0c160e&tid=65969c71422c5e79de0c1638&bd=AMTc3M19jdF9jaA==

Q5

100%

L../Arithmetic Oper... /Writing a program on some more arithmetic o...

Write a program that uses the following arithmetic operators.

`**` **Exponent Operator**

`%` **Modulus Division**

`//` **Floor Division**

The program should take two `integer` inputs from the user and print the result of the above-mentioned arithmetic operators.

Sample Input and Output:

```
Exponent of 20 with 10 = 10240000000000
Modulus of 20 and 10 = 0
Floor Division of 20 and 10 = 2
```

Arithexample4.py

Submit

```
1  a=int(input("num1: "))
2  b=int(input("num2: "))
3
4  exp=a**b
5  print(f'Exponent of {a} with {b} = {exp}')
6
7  mod=a%b
8  print(f'Modulus of {a} and {b} = {mod}')
9
10 flr=a//b
11 print(f'Floor Division of {a} and {b} = {flr}')
```

Close Reset Submit

Type here to search

34°C Mostly sunny

ENG US 1:16 PM 10/05/2024

Validation OTP for CodeTantra | CodeTantra Edu

csmssengg.codetantra.com/secure/topic-details1.jsp?cid=65969c70422c5e79de0c160e&tid=65969c71422c5e79de0c1638&bd=AMTc3M19jdF9jaA==

Q6

100%

L9 / Arithmetic Operators / Explanation of divmod function

Write a program to find **quotient** and **remainder** of the given two values using `divmod()`.

Sample Input and Output:

```
num1: 45
num2: 3
45 // 3 = 15
45 % 3 = 0
```

Hints

The `divmod(dividend,divisor)` function returns a **tuple** containing the quotient and the remainder, when argument1 (**dividend**) is divided by argument2 (**divisor**).

The syntax of the `divmod()` function is :

```
divmod(x, y)

    • x - a non-complex number (numerator)
    • y - a non-complex number (denominator)
```

The divmod() returns (q, r) - a pair of numbers (a tuple) consisting of quotient q and remainder r

Divmod.py

Submit

```
1  #Program to illustrate divmod() function
2  def divmod():
3  # Input num1 with message "Enter number-1: "
4      num1=int(input("num1: "))
5  # Input num2 with message "Enter number-2: "
6      num2=int(input("num2: "))
7  # use divmod() and store results in 2 variables x, and y
8      x=num1//num2
9      y=num1%num2
10     print(f'{num1} // {num2} = {x}')
11     print(f'{num1} % {num2} = {y}')
12
13 divmod()
14  # replace variables in () and print the results
15
```

Close Reset Submit

Type here to search

34°C Mostly sunny

ENG US 1:16 PM 10/05/2024

Validation OTP for CodeTantra | CodeTantra Edu

csmssengg.codetantra.com/secure/topic-details1.jsp?cid=65969c70422c5e79de0c160e&tid=65969c71422c5e79de0c1638&bd=AMTc3M19jdF9jaA==

Q1

100%

L9/Comparison Operators/Comparison Operators - An overview

Python supports the following comparison operators.The result of these comparison operators is either `True` or `False`.

Operator	Operation	Expression (Result)
`==`	If the values of two operands are equal, then the condition becomes True.	23 == 34 (False) 10 == 10 (True)
`!=`	If the values of two operands are not equal, then the condition becomes True.	23 != 34 (True) 10 != 10 (False)
`<`	If value of left operand is less than value of right operand, then condition becomes true.	10 < 20 (True) 20 < 5 (False)
`>`	If value of left operand is greater than value	10 > 20 (False)

Compexample1.py

Submit

```
num1 = int(input("num1: "))
num2 = int(input("num2: "))

# Print Is num1 greater than num2.
is_num1_greater_than_num2= num1>num2
print(f'Is {num1} greater than {num2} =',is_num1_greater_than_num2)

# Print Is num1 less than num2.
is_num1_less_than_num2= num1<num2
print(f'Is {num1} less than {num2} =', is_num1_less_than_num2)

# Print Is num1 equal to num2.
is_num1_equal_to_num2 =num1==num2
print(f'Is {num1} equal to {num2} =', is_num1_equal_to_num2)

# Print Is num1 not equal to num2.
is_num1_not_equal_to_num2 =num1!=num2
print(f'Is {num1} not equal to {num2} =', is_num1_not_equal_to_num2)

# Print Is num1 less than or equal to num2.
is_num1_less_than_or_equal_to_num2 =num1<=num2
print(f'Is {num1} less than or equal to {num2} =', is_num1_less_than_or_equal_to_num2

# Print Is num1 greater than or equal to num2.
is_num1_greater_than_or_equal_to_num2 =num1>=num2
print(f'Is {num1} greater than or equal to {num2} =', is_num1_greater_than_or_equal_t

```

Close Reset Submit

Type here to search

34°C Mostly sunny

ENG US 1:17 PM 10/05/2024

Validation OTP for CodeTantra | CodeTantra Edu

csmssengg.codetantra.com/secure/topic-details1.jsp?cid=65969c70422c5e79de0c160e&tid=65969c71422c5e79de0c1638&bd=AMTc3M19jdF9jaA==

Q2

100%

L9/Comparison Operators/Using Comparison operators

Take two integers as input from the console using **input()** function. For each comparison operator (`>, <, ==, !=, >=, <=`), print to the console, the result of the two input numbers as shown in the example.

Sample Input and Output:

```
num1: 20
num2: 10
Is 20 greater than 10 = True
Is 20 less than 10 = False
Is 20 equal to 10 = False
Is 20 not equal to 10 = True
Is 20 greater than or equal to 10 = True
Is 20 less than or equal to 10 = False
```

Compexample2.py

Submit

```
1  # Comparision Operators >, <, ==, !=, >=, <= on numbers
2  num1=int(input("num1: "))
3  num2=int(input("num2: "))
4
5  is_num1_greater_than_num2 =num1>num2
6  print(f'Is {num1} greater than {num2} =', is_num1_greater_than_num2)
7
8  is_num1_less_than_num2 =num1<num2
9  print(f'Is {num1} less than {num2} =', is_num1_less_than_num2)
10
11 is_num1_equal_to_num2 =num1==num2
12 print(f'Is {num1} equal to {num2} =', is_num1_equal_to_num2)
13
14 is_num1_not_equal_to_num2 =num1!=num2
15 print(f'Is {num1} not equal to {num2} =',is_num1_not_equal_to_num2)
16
17 is_num1_greater_than_or_equal_to_num2 =num1>=num2
18 print(f'Is {num1} greater than or equal to {num2} =', is_num1_greater_than_or_equal_t
19
20 is_num1_less_than_or_equal_to_num2 =num1<=num2
21 print(f'Is {num1} less than or equal to {num2} =', is_num1_less_than_or_equal_to_num2
```

Close Reset Submit

Type here to search

Windy tomorrow

ENG US 1:17 PM 10/05/2024

Validation OTP for CodeTantra | CodeTantra Edu

csmssengg.codetantra.com/secure/topic-details1.jsp?cid=65969c70422c5e79de0c160e&tid=65969c71422c5e79de0c1638&bd=AMTc3M19jdF9jaA==

Q3

100%

L9 / Comparison Operators / Comparison operators with strings

All the comparison operators work on strings also. The result is either `True` or `False`.

Python compares strings using **Unicode value** of the characters (lexicographical).

The comparison is made taking the **ordinal** values of each character in the string and compare it with the **ordinal** values of the character at the same position in the other string.

If the ordinal value of the character in the first string is greater than the ordinal value of the character in the second string, then the comparison stops and the first string is declared as greater than the second string. The length of the string does not matter.

In Python, the ordinal value of a character can be found using the `ord()` function, which takes the character as an argument.

Note: You do not have to use ord() function. Python uses it to compare the strings internally.

Write a program to understand the use of comparison operators using conditional parameters. Take input from user using `input()` method.

Sample Input and Output

```
Is Rebecca greater than Bethany = True
Is Rebecca less than Bethany = False
```

Compexample5.py

Submit

```
1  # write your code here
2  str1=input("str1: ")
3  str2=input("str2: ")
4
5  is_str1_greater_than_str2=str1>str2
6  print(f'Is {str1} greater than {str2} =',is_str1_greater_than_str2)
7
8  is_str1_less_than_str2=str1<str2
9  print(f'Is {str1} less than {str2} =', is_str1_less_than_str2)
10
11 is_str1_equal_to_str2=str1==str2
12 print(f'Is {str1} equal to {str2} =', is_str1_equal_to_str2)
13
14 is_str1_not_equal_to_str2=str1!=str2
15 print(f'Is {str1} not equal to {str2} =', is_str1_not_equal_to_str2)
16
17 is_str1_greater_than_or_equal_to_str2=str1>=str2
18 print(f'Is {str1} greater than or equal to {str2} =', is_str1_greater_than_or_equal_t
19
20 is_str1_less_than_or_equal_to_str2=str1<=str2
21 print(f'Is {str1} less than or equal to {str2} =', is_str1_less_than_or_equal_to_str2
```

Close Reset Submit

Type here to search

Windy tomorrow

ENG US 1:17 PM 10/05/2024

Validation OTP for CodeTantra | CodeTantra Edu

csmssengg.codetantra.com/secure/topic-details1.jsp?cid=65969c70422c5e79de0c160e&tid=65969c71422c5e79de0c1638&bd=AMTc3M19jdF9jaA==

Q4

100%

L9/Comparison Operators/Writing Comparison Operators on Strings

Take two strings as input from the console using **input()** function. For each of the comparison operators (`>, <, ==, !=, >=, <=`), print to the console, the result of the comparison of the two input strings as shown in the example below.

Sample Input Output

```
str1: Code
str2: Tantra
Is Code greater than Tantra = False
Is Code less than Tantra = True
Is Code equal to Tantra = False
Is Code not equal to Tantra = True
Is Code greater than or equal to Tantra = False
Is Code less than or equal to Tantra = True
```

Compexample4.py

Submit

```
1  str1 = input("str1: ")
2  str2 = input("str2: ")
3  # Print Is str1 greater than str2
4  is_str1_greater_than_str2 =str1>str2
5  print(f'Is {str1} greater than {str2} =', is_str1_greater_than_str2)
6
7  # Print Is str1 less than str2
8  is_small =str1<str2
9  print(f'Is {str1} less than {str2} =', is_small)
10
11 # Print Is str1 is equal to str2
12 equal =str1==str2
13 print(f'Is {str1} equal to {str2} =', equal)
14
15 # Print Is str1 not equal to str2
16 notequal =str1!=str2
17 print(f'Is {str1} not equal to {str2} =', notequal)
18
19 # Print Is str1 greater than or equal to str2
20 greater =str1>=str2
21 print(f'Is {str1} greater than or equal to {str2} =', greater)
22
23 # Print Is str1 less than or equal to str2
24 less =str1<=str2
25 print(f'Is {str1} less than or equal to {str2} =', less)
```

Close Reset Submit

Type here to search

Windy tomorrow

ENG US 1:17 PM 10/05/2024