

Python Assignment on Variable & Operator

Ashish Suresh Gurav (Assistant Professor-Computer Science, Kharghar)

Oct 1 (Edited Oct 3)

Due Oct 3

1. Write a program to calculate AREA & Perimeter of 2D mathematical Shapes (Circle, Square, Rectangle, Triangle)
2. Write a program to calculate AREA & Volume of 3D mathematical Shapes (Sphere, Cube, Cuboid, Cone)

Python Assignment on Conditional statement

Python Assignment on Loop statement

Python - String Assignment

Python Assignment on Array Assignments

Ashish Suresh Gurav (Assistant Professor-Computer Science, Kharghar)

Oct 9

Due Oct 10, 11:00 AM

1. Write a Python program to reverse the order of the items in the array.
2. Write a Python program to get the number of occurrences of a specified element in an array.
3. Write a Python program to find out if a given array of integers contains any duplicate elements.
4. Write a Python program to find the missing number in a given array of 5 continuous numbers.
5. Replace all odd numbers in the given array with -1

Python Assignment on Function Assignments

Ashish Suresh Gurav (Assistant Professor-Computer Science, Kharghar)

Oct 10

Due Oct 11

1. Write a Python function to check whether a number falls within a given range.
2. Write a Python function that takes a list of strings as input and returns a tuple containing the shortest and longest word from the list
3. Write a Python function that takes a list and an element as input. The function should add the element to the list only if it's not already present in the list.
4. Write a program to implement these formulae of permutations and combinations.
Number of permutations of n objects taken r at a time: $p(n, r) = n! / (n-r)!$.
Number of combinations of n objects taken r at a time is: $c(n, r) = n! / (r!(n-r)!) = p(n, r) / r!$
5. A number is called perfect if the sum of proper divisors of that number is equal to the number. For example 28 is perfect number, since $1+2+4+7+14=28$. Write a program to print all the perfect numbers in a given range
6. Write a recursive function that will return the nth term of the Fibonacci sequence.
The sequence has a relationship of $F_n = F_{n-1} + F_{n-2}$ with $F_0 = 0$ and $F_1 = 1$, where $n=0,1,2,3,4,5,\dots$

List Assignments

Ashish Suresh Gurav (Assistant Professor-Computer Science, Kharghar)

Oct 14

Due Oct 15, 1:00 PM

1. Write a Python program to remove duplicates from a list.
2. Write a Python function that takes two lists and returns True if they have at least one common member.
3. Write a Python program to print the numbers of a specified list after removing even numbers from it.
4. Write a Python program to find the second smallest number in a list.
5. Write a Python program to split a list every Nth element.
6. Write a Python a function to find the union and intersection of two lists.
7. Write a Python function to check if a list is a palindrome or not. Return true otherwise false.

Tuple Assignments

Ashish Suresh Gurav (Assistant Professor-Computer Science, Kharghar)

Oct 15

Due Oct 16

1. Write a Python program to compute the element-wise sum of given tuples.

Original : (1, 2, 3, 4) (3, 5, 2, 1) (2, 2, 3, 1)

Element-wise sum of the said tuples: (6, 9, 8, 6)

2. Write a Python program to convert a given list of tuples to a list of lists.

Original list of tuples: [(1, 2), (2, 3), (3, 4)]

3. Convert the said list of tuples to a list of lists: [[1, 2], [2, 3], [3, 4]]

4. Write a Python program to remove an empty tuple(s) from a list of tuples.

5. Write a Python program to convert a given string to a tuple

6. Write a Python program to calculate the product, multiplying all the numbers in a given tuple.

SET Assignment

Ashish Suresh Gurav (Assistant Professor-Computer Science, Kharghar)

Oct 15

Due Oct 17

1. Write a Python program to remove an item from a set if it is present in the set.

2. Write a Python program to check if two given sets have no elements in common.

3. Write a Python program to Get Only unique items from two sets

4. Write a Python program to Convert Set to one String

5. program to count number of vowels using sets in given string

Dictionary Assignments

Ashish Suresh Gurav (Assistant Professor-Computer Science, Kharghar)

Oct 15

Due Oct 18

1. Write a Python script to sort (ascending and descending) a dictionary by value.

2. Write a Python program to remove duplicates from the dictionary.

3. Write a Python program to combine two dictionary by adding values for common keys.

4. Write a Python program to create a dictionary from a string. (Track the count of the letters from the string.)

5. Write a Python program to match key and values both, in two dictionaries.

File Handling Assignments

Ashish Suresh Gurav (Assistant Professor-Computer Science, Kharghar)

Nov 4 (Edited Nov 8)

Due Yesterday, 11:59 PM

1. WAP to find the number of words in the given text file
Hints: Use the `split()` method to separate words.
2. Write a program to write "Happy Programming" in a text file and read it
3. WAP to demonstrate the working of the following functions:
 - i) `read()`
 - ii) `read(n)`
 - iii) `readline()`
 - iv) `readlines()`
4. WAP that exhibits the working of the following functions:
 - i. `write()`
 - ii. `writelines()`
5. Write a Python program to read first n lines of a file.
6. Write a Python program to append text to a file and display the text.
7. Write a Python program to read last n lines of a file.
8. Write a Python program to read a file line by line and store it into a list.

Exception Handling Assignments

Ashish Suresh Gurav (Assistant Professor-Computer Science, Kharghar)

Nov 4 (Edited Nov 8)

Due Yesterday, 11:59 PM

1. Write a program to exhibit these concepts:
 - i. `try`
 - ii. `except`
 - iii. `Finally`
2. Write a Python program to handle a `ZeroDivisionError` exception when dividing a number by zero.
3. Write a Python program that prompts the user to input an integer and raises a `ValueError`
4. exception if the input is not a valid integer.
5. WAP that exhibits multiple `except` blocks along with default block.
6. WAP that exhibits `except` blocks that can catch multiple exceptions.

