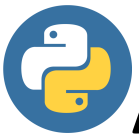
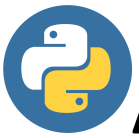


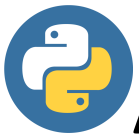
Assignment-1: Python Basics

1. Write a command to get the Python version you are using.
2. Write a python script to print Hello Python on the screen directly in the command line.
3. Write a python script and store it in a file and execute the file from the command line.
4. Write a python script to print Hello Python on the screen using visual studio code.
5. Write a python script to print Hello on the first line and Python on the second line
6. Write a python script to print “Python3” on the screen
7. Write a python script to print “Your name” on the screen
8. Write a python script to print the value of a variable. Variable contains your name as data.
9. Write a python script to create variables to store your name, age, qualification, years of experience and print it.
10. Write a python script to print values of three variables, each in a new line. Variable contains integer values.



Assignment-2: Python Basics

1. Write a python script to add comments and print “Learning Python” on screen.
2. Write a python script to add multi line comments.
3. Write a python script to print types of variables. Create 5 variables, each of them containing different types of data.
4. Write a python script to print the id of two variables containing the same integer values.
5. Create four variables in a Python script and assign the values. And print its type of each variable.
6. Write a python script to print all the keywords.
7. On Python shell use help() function and display the list of keywords.
8. Create two Python files A0.py and A1.py. Create a variable in A1.py and assign some value to it. Write a python script to import A1 module in A0 and print value of the variable created in A0.py
9. Name the keywords, used as data in the Python script.
10. Write a python script to display the current date and time. First create variables to store date and time, then display date and time in proper format (like: 13-8-2022 and 9:00 PM)

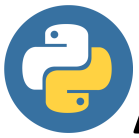


Assignment-3: Type Conversion

1. Write a python script to convert a number into str type.
2. Write a python script to print Unicode of the character ‘m’
3. Write a python script to print character representation of a given Unicode 100.
4. Write a python script to print character representation of a given Unicode 100.
5. Write a python script to print any number and its octal equivalent.
6. Write a python script to print any number and its hexadecimal equivalent.
7. Write a python script to store binary number 1100101 in a variable and print it in decimal format.
8. Write a python script to store a hexadecimal number 2F in a variable and print it in octal format.
9. Write a python script to store an octal number 125 in a variable and print it in binary format.
10. Write a python script to add two numbers 25 (in octal) And 39 (in hexadecimal) and display the result in binary Format.

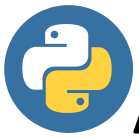
Assignment-4: User Input Problems

1. Write a python script to take your name as input from the user and then print it.
2. Write a python script to take input from the user. Input must be a number.
3. Write a python script which takes two numbers from the user, then calculate their sum and display the result.
4. Write a python script which takes the radius from the user and display area of a circle.
5. Write a python script to calculate the square of a number. Number is entered by the user.
6. Write a python script to calculate the area of Triangle. Number is entered by the user.
7. Write a python script to calculate an average of three numbers, entered by the user.
8. Write a python script to calculate simple interest.
9. Write a python script to calculate the volume of a cuboid.
10. Write a python script to calculate the area of a rectangle.



Assignment-5: Operators

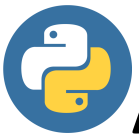
1. Write a python script to remove the last digit from a given number. (For example, if user enters 2534 then your output should be 253)
2. Write a python script to get the last digit from a given number. (For example, if user enters 2089 then your output should be 9)
3. Write a python script to swap data of two variables
4. Write a python script to find x power y, where values of x and y are given by user
5. Write a python script which takes a three-digit number from the user and displays only its first digit.
6. Write a python script which takes a three-digit number from the user and displays only its middle digit.
7. Write a python script which takes a three-digit number from the user and displays only its last digit.
8. Write a python script to use IN operator to display the data present in the list
9. Write a python script to use NOT IN operator to display the data do not present in list
10. Write a python script to use IS operator to display if both variables are the same object or not?



Assignment-6: Decision Control

1. Write a python script to check whether a given number is positive or non-positive
2. Write a python script to check whether a given number is divisible by 5 or not
3. Write a python script to check whether a given number is even or odd
4. Write a python script to print greater between two numbers. Print number only once even if the numbers are the same.
5. Write a python script to print two given words in dictionary order
6. Write a python script to check whether a given number is a three-digit number or not.
7. Write a python script to check whether a given number is positive, negative or zero.
8. Write a python script to check whether a given quadratic equation has two real & distinct roots, real & equal roots or imaginary roots
9. Write a python script to check whether a given year is a leap year or not.

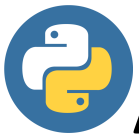
10. Write a python script to print greater among three numbers. Print number only once even if the numbers are the same.
11. Write a python script to take the month value in numeric format and display the number of days in it.
12. Write a python script to accept one complex number from the user and display the greater number between the real part and imaginary part.



Assignment–7: Match Case

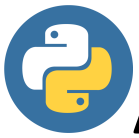
1. Write a python script to display the number of days in a given month number.
2. Write a menu driven program to perform following operations - Addition, Subtraction, Multiplication, Division
3. Write a menu driven program with the following options:
    a. Check whether a given set of three numbers are lengths of an isosceles triangle or not
    b. Check whether a given set of three numbers are lengths of sides of a right-angled triangle or not
    c. Check whether a given set of three numbers are equilateral triangle or not
    d. Exit.
4. Write a program which takes the user's age and displays the category of person. Age below 10 years- Kid, Age below 20- Teen, Age below 40 - young, Age below 60 - Experienced, Age above or equal to 60 - Senior Citizen.
5. Write a program which takes a number from user. Print Saurabh Shukla if the number is even, print Python if the number is negative odd number and print HTML if the number is a positive odd number.

6. Write a python program to check whether a given string is a multiword string or single word string using match case statement.
7. Write a python program to check whether a given number is positive, negative or zero using match case statement.
8. Write a python script to check whether two given strings are identical, first string comes before the second in dictionary order or first string comes after the second string in dictionary order using match case statement.
9. Write a python script to check whether a given year is
    a. Non century leap year
    b. Century leap year
    c. Non century non leap year
    d. Century non leap year
10. Write a program to display day name based on the user's liking of a colour. Ask the user for his favorite colour. User can answer in a sentence like "I like red colour". Assuming all colour names entered by the user is in lowercase. Use a match case to display the day name associated with the colour.
    a. Yellow - Monday
    b. Blue - Tuesday
    c. Orange - Wednesday
    d. White - Thursday
    e. Black - Friday
    f. Red - Saturday
    g. All other colors – Sunday



Assignment–8: While Loop

1. Write a python script to print Python3 5 times on the screen.
2. Write a python script to print the first 10 natural numbers.
3. Write a python script to print first 10 natural numbers in reverse order
4. Write a python script to print first 10 odd natural numbers
5. Write a python script to print first 10 odd natural numbers in reverse order
6. Write a python script to print first 10 even natural numbers
7. Write a python script to print first 10 even natural numbers in reverse order
8. Write a python script to print squares of first 10 natural numbers
9. Write a python script to print cubes of first 10 natural numbers
10. Write a python script to print first 10 multiples of 5



Assignment-9: More on While Loop

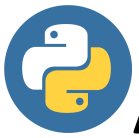
1. Write a python script to print Python3 N times on the screen.
2. Write a python script to print first N natural numbers
3. Write a python script to print the first N natural numbers in reverse order.
4. Write a python script to print first N odd natural numbers.
5. Write a python script to print the first N odd natural numbers in reverse order.
6. Write a python script to print first N even natural numbers.
7. Write a python script to print the first N even natural numbers in reverse order.
8. Write a python script to print squares of first N natural numbers.
9. Write a python script to print cubes of first N natural numbers.
10. Write a python script to print the first 10 multiples of N.

Assignment–10: for loop and range

1. Write a python script to print the first 10 multiples of 5.
2. Write a python script to print first 10 multiples of N
3. Write a python script to print the first M multiples of N.
4. Write a python script to print the first 10 multiples of N in reverse order.
5. Write a python script to print table of user's choice
6. Write a python script to print first N even natural numbers.
7. Write a python script to print first N odd natural numbers
8. Write a python script to print squares of first N natural numbers.
9. Write a python script to print cubes of first N natural numbers.
10. Write a python script to display all prime numbers within a range.

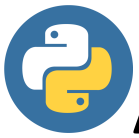
    start = 15

    end = 45



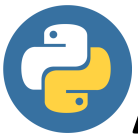
Assignment-11: loops

1. Write a python script to calculate sum of first N natural numbers
2. Write a python script to calculate sum of squares of first N natural numbers
3. Write a python script to calculate sum of cubes of first N natural numbers
4. Write a python script to calculate sum of first N odd natural numbers
5. Write a python script to calculate sum of first N even natural numbers
6. Write a python script to calculate factorial of a given number
7. Write a python script to count digits in a given number
8. Write a python script to calculate sum of digits of a given number
9. Write a python script to print binary equivalent of a given decimal number. (Do not use bin() method)
10. Write a python script to print the octal equivalent of a given decimal number. (Do not use oct() method)



Assignment-12: More on loops

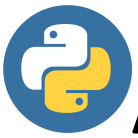
1. Write a python script to reverse a number.
2. Write a python script to check whether a given number is Prime or not
3. Write a python script to print all Prime numbers under 100
4. Write a python script to print all Prime numbers between two given numbers (both values inclusive)
5. Write a python script to find next prime number of a given number
6. Write a python script to print first N prime numbers
7. Write a python script to check whether a given pair of numbers are co-Prime numbers or not.
8. Write a python script to print first N terms of a Fibonacci series
9. Write a python script to calculate LCM of two numbers
10. Write a python script to calculate HCF of two numbers



Assignment–13: List

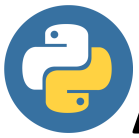
1. Write a python script to store multiple items in a single variable (Items are “Java”, “Python”, “SQL”, “C”) using list
2. Write a python script to get the data type of a list.
3. Write a python script to get the last item of the list (mylist = ["Java", "C", "Python"])
4. Write a python script to Change the values "SQL" and "Reactnative" with the values "NoSQL" and "Flutter" (List is thislist = ["Java", "SQL", "C", "Reactnative", "Javascript", "Python"]
5. Write a python script to add an item to the end of the list (item “Python”. (mylist = ["Java", "SQL", "C", "Reactnative"]
6. Write a python program to append elements from another list to the current list. (firstlist = ["Java", "Python", "SQL"] secondlist = ["C", "Capp", "NoSQL"])
7. Write a python program to Print all items by referring to their index number (thislist = ["Java", "SQL", "C", "Reactnative", "Javascript", "Python"]
8. Write a python program to sort the list alphanumerically – thislist = ["Java", "SQL", "C", "C++", "Javascript", "Python"]
9. Write a Python script to create a list of city names taken from the user.

10. Write a Python script to create a list, where each element of the list is a digit of a given number.



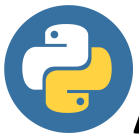
Assignment–14: More on List

1. Write a Python script to create a list of first N natural numbers.
2. Write a Python script to create a list of first N odd natural numbers.
3. Write a Python script to create a list of first N even natural numbers.
4. Write a Python script to find the greatest number in a given list of numbers.
5. Write a Python script to find the smallest number in a given list of numbers.
6. Write a Python script to calculate the sum of elements in each list of numbers.
7. Write a Python script to remove all non int values from a list.
8. Write a Python script to print distinct elements along with their frequencies of occurrence in the list.
9. Write a Python script to print indices of all occurrences of a given element in a given list.
10. Write a python script to sort a list.



Assignment–15: Strings

1. Write a python script to create a String in 3 different possible ways
2. Write a python script to Get the characters from the start to position 5 (Given String “Python3” using the slice syntax)
3. Write a python script to Get the characters from position 2 to position 5 (Given String “Hello Learners” using the slice syntax)
4. Write a python script to demonstrate String Concatenation adding space in between (Given Strings a=” Learning” b=” Python”)
5. Write a python script to get the count of total number of characters in String a= “Python”
6. Write a python script to reverse a String. (“Python”)
7. Write a python script to determine whether a string contains a specific substring.
8. Write a python script to check if a string contains only numbers.
9. Write a python script to check if a string contains only characters of the alphabet.
10. 10. Write a python script to convert an integer to a string.



Assignment–16: Tuple

1. Write a python script to store multiple items in a single variable (Items are “Java”, “Python”, “SQL”, “C”) using tuple
2. Write a python program to store only one item using tuple.
3. Write a python program to reverse the tuple.
4. Write a python program to Swap two tuples in Python.
5. Write a python program to check if all items in the tuple are the same.
6. Write a python program to divide the tuple into four variables. tuple1= (100, 200, 300, 400)
7. Write a python program to copy elements 4 and 5 from the following tuple into a new tuple. tuple1= (1,2,3,4,5,6)
8. 8. Write a python program to Sort a tuple of tuples by the second item. tuple1 = (('a', 21), ('b', 37), ('c', 11), ('d',29))
9. Write a python program to print the value 20 from given nested tuple tuple1 = ("Python", [10, 20, 30], (2, 4, 16))
10. Write a python program to change the first item (22) of a list within the following tuple to 222. tuple1 = (11, [22, 33], 44, 55)

Assignment–17: Set

1. Write a python program to store all the programming languages known to you using Set.
2. Write a python program to store your own information {name, age, gender, so on...}
3. Write a python script to get the data type of a Set.
4. Write a Python script to find if “Python” is present in the set thisset = {"Java", "Python", "Django"}
5. Write a python program to add items from another set to the current set. thisset = {"Java", "Python", "SQL"} secondset= {"C", "Cpp", "NoSQL"}
6. Write a python program to add elements of list to a set thisset = {"Python", "Django", "JavaScript"} mylist = ["Java", "C"]
7. Write a python program to remove last item of the given set thisset = {"Python", "Django", "JavaScript", “SQL”}
8. Write a python program to delete the set completely.
9. Write a python program to loop through the set and print values thisset = {"Python", "Django", "JavaScript", “SQL”}
10. Write a python program to find the maximum and minimum value in a set.

Assignment–18: Dictionary

1. Write a python program to create and print a dictionary which stores your information. (Name, age, gender ……)
2. Write a python program to access the items of a dictionary by referring to its key name.
3. Write a python program to get a list of the values from a dictionary.
4. Write a python program to change the value of a specific item by referring to its key name.
5. Write a python program to print all key names in the dictionary, one by one.
6. Write a python program to create a dictionary that contains three dictionaries. (nested)
7. Write a python program to create three dictionaries, then create one dictionary that will contain the other three dictionaries.
8. Write a python program to convert two lists into a dictionary in a way that item from list1 is the key and item from list2 is the value.
9. Write a python program to merge two python dictionaries into one dictionary.
10. Write a python program to get the key of lowest value from the dictionary.

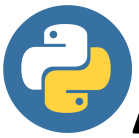
Assignment–19: Functions

1. Write a python program to create a simple function which prints “Panditjee”.
2. Write a python program to create a function which expects two arguments and print them in the function body.
3. Write a python program to create a function which expects an unknown number of arguments.
4. Write a python program to create a function which expects kwargs arguments.
5. Write a python program to create a function which expects a list as an argument.
6. Write a python program to create a function that finds a maximum of four numbers.
7. Write a python program to sum all the numbers in a list.
8. Write a python program to multiply all the numbers in a list.
9. Write a python program to create a function to check whether a number falls in a given range.
10. Write a python program to create a function to check whether a given number is even or odd.

Assignment–20: More on functions

1. Write a python program to create a function that takes a list and returns a new list with the original list's unique elements.
2. Write a python program to create a function that takes a number as a parameter and checks if the number is prime or not.
3. Write a python program to create a function that prints the even numbers from a given list. Sample List: [1, 2, 3, 4, 5, 6, 7, 8, 9]
4. Write a python program to create a function that checks whether a passed string is palindrome or not.
5. Write a python program to create a function to find the Min of three numbers.
6. Write a python program to create a function and print a list where the values are square of numbers between 1 and 30.
7. Write a python program to access a function inside a function.
8. Write a python program to create a function that accepts a string and calculates the number of upper-case letters and lower-case letters.

9. Write a python program to create a function to check whether a string is a pangram or not.
10. Write a python program to create a function to check whether a string is an anagram or not.

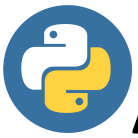


Assignment–21: Recursion

1. Write a recursive python function to print the first N natural numbers.
2. Write a recursive python function to print first N natural numbers in reverse order
3. Write a recursive python function to print first N odd natural numbers
4. Write a recursive python function to print first N odd natural numbers in reverse order
5. Write a recursive python function to print the first N even natural numbers.
6. Write a recursive python function to print the first N even natural numbers in reverse order.
7. Write a recursive python function to print squares of first N natural numbers
8. Write a recursive python function to print cubes of first N natural numbers
9. Write a recursive python function to print the first N multiples of a given number.
10. Write a recursive python function to print a number in reverse order.

Assignment–22: More on Recursion

1. Write a recursive python function to calculate sum of first N natural numbers.
2. Write a recursive python function to calculate sum of first N odd natural numbers.
3. Write a recursive python function to calculate sum of first N even natural numbers.
4. Write a recursive python function to calculate sum of squares of first N natural numbers.
5. Write a recursive python function to calculate sum of cubes of first N natural numbers.
6. Write a recursive python function to calculate the factorial of a number.
7. Write a recursive python function to calculate the sum of the digits of a given number.
8. Write a recursive python function to print binary of a given decimal number.
9. Write a recursive python function to print octal of a given decimal number.
10. 10. Write a recursive python function to find the Nth term of the Fibonacci series.



Assignment–23: Iterator, Generator and Decorator

1. Use iter and next method to access all the elements of a given set using while loop
2. Create a generator to produce first n odd natural numbers
3. Create a generator to produce first n even natural numbers
4. Create a generator to produce squares of first N natural numbers
5. Create a generator to produce first n terms of Fibonacci series
6. Create a generator to produce first n prime numbers
7. Create an endless iterator using generator method to produce terms of Fibonacci series
8. Create an endless iterator using generator method to produce Prime numbers
9. Define a function which takes lengths of three sides of a triangle as arguments and display the perimeter or triangle. Define and apply a decorator which checks for the validity of the triangle on the basis of lengths of the side. This makes the perimeter to be displayed when the triangle can exist with the given lengths of the sides.

10. Define a function which calculates HCF of two numbers. Define and apply a decorator to check whether two given numbers are co-prime or not.

Assignment–24: Classes and Objects

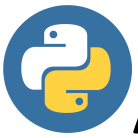
1. Write a python program to create a user class with 3 properties: name, age, email.
2. Write a python program to create a user class with a method to greet the user.
3. Write a python program to create 2 objects of the user class and assign different values.
4. Write a python program to init default values for user object using __init__ method.
5. Write a python program to delete the age property of the user.
6. Write a python program to create 3 user objects and find the youngest of all.
7. 7. Write a python program to create a laptop class with 4 attributes (brand, ram, CPU, hdd) and 2 methods (showConfig() to print the values, __init__() to initialize the values).
8. WRT 7th Question, create 3 Laptop objects and add them to the list in the sorted order based on the ram size.
9. Write a python program to create a school class and 3 instance variables and 1 class variable.
10. Define a class Employee with instance object variables empid, name, salary. Write __init__() method in

the class to initialize instance object variables. Also define instance methods to input fields and display field values.

Assignment–25: OOPs and Inheritance

1. Write a python script to create a Profile class with 3 attributes (name, email, age).
2. Write a python script to update the above Profile class with encapsulation.
3. Write a python script to update 2nd Question, change email and age to __email and __age.
4. Write a python script to update 2nd Question, add a class variable (platform) and create a classmethod to access it.
5. Write a python script to create a Calculator class with 2 methods for adding and subtracting 2 values.
6. Write a python script to create a Calculator 2.0 class with 2 methods for multiplication and division of 2 values and inherit it from the Calculator class.
7. Write a python script to create a Phone class with 2 methods to print the features (Calling and SMS).
8. Write a python script to create a SmartPhone class by inheriting Calculator 2.0 and Phone Class.
9. Write a python script to create an application like Truecaller where names and numbers are stored. Truecaller class will have 2 methods (1st to fetch the name of a number and 2nd to add a new entry).

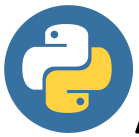
10. Write a python script to add the new method in SmartPhone class which accepts Truecaller object as a parameter and call the fetch method of Truecaller.



Assignment–26: Polymorphism and Multithreading

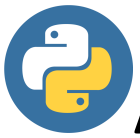
1. Write a python script to multiple 2 or 3 or 4 numbers with a single multiply method in a class using method overloading.
2. Write a python script to create a user account class with 2 instance variables (userid and balance). Create 3 user objects and add all the users using operator overloading.
3. Write a python script to create a to print the above user account object using operator overloading (hint __str__ method).
4. Write a python script to create two Threads. First thread will print all Even numbers and Second thread will print all odd numbers till 100.
5. Write a python script to create 2 threads to add all the values from 1 to 100.
6. Write a python script to create 5 threads to fill a list with random numbers till 100.
7. Write a python script to create a clock where 1st thread will print the current time every second and 2nd will print “1 Minute Completed” after every 1 minute.
8. Write a python script to change the name of the Thread.

9. Write a python script to join 2 threads after printing completing the first Question.
10. Write a python script to check whether a given number is prime or Armstrong number using 2 different threads.



Assignment–27: Exception Handling

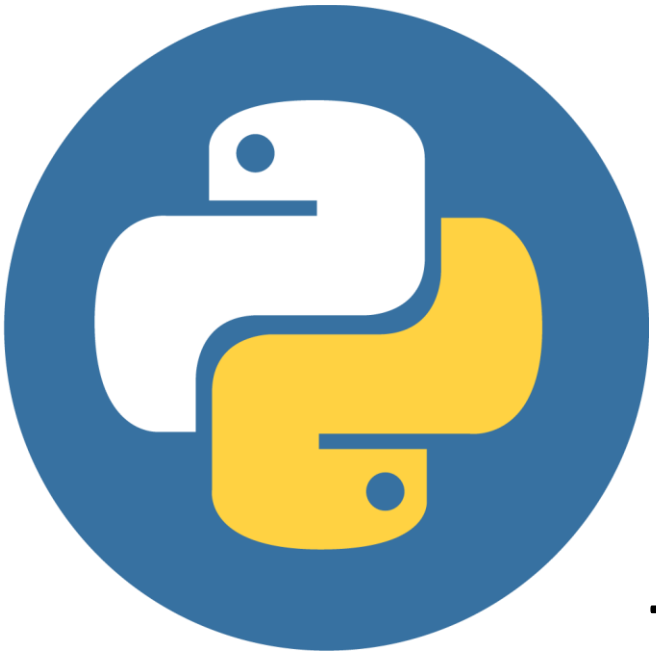
1. Write a python script to create a ArithmeticError
2. Write a python script to create a ValueError
3. Write a python script to handle the ArithmeticError
4. Write a python script to handle a ValueError
5. Write a python script to handle multiple Exception in one try
6. Write a python script to create a calculator with 4 basic operations and handle a maximum number of exceptions.
7. Write a python script to add a finally block for the above script
8. Write a python script to implement try except and else block for division
9. Write a python script to raise a ValueError.
10. Write a python script to implement a nested Try Except block



Assignment-28: File Handling

1. Write a Python script to print the following status of a file:
    a. Whether a file is read only
    b. Whether a file is closed or not
    c. Which file opening mode is used
    d. Name of the file
2. Write a Python script to create a new file ‘myfile.txt’ and store user entered text.
3. Write a Python script to read the above created file ‘myfile.txt’ and display content on the console.
4. Write a Python script to store a list of city names in a file ‘cities.txt’
5. Write a Python script to append list of city names in a file ‘cities.txt’
6. Write a Python script to search whether a particular city is there in the file ‘cities.txt’ or not
7. Write a Python script to count the number of Python keywords occurring in a python source file.
8. Write a Python script to create a copy of a file.
9. Write a Python script to store book data in a file. Book data is in the form of a dictionary in which book name is the key and price is its value. Use pickle to store data into a file (say bookfile)

10. Write a Python script to extract book data from a bookfile using pickle. Also printextracted book data.



The end.