Topic: Core Python concepts
Introduction of python,If, If- else, Nested if-else,while,for-loop

Assignment Level Basic

B1.What is Python ,Name some of the features of Python.

B2: Write a Python program to get the Python version you are using?

B3.Is python the right choice for Web based Programming?

B4.Why was the language called as Python?

B5.Write a Python program to check if a number is positive, negative or zero.

B6.What is the language from which Python has got its features or derived its features?

B7. Write a Python program to check if variable is of integer or string.

B8.Does python support switch or case statement in Python?
If not what is the reason for the same?

B9.How Python is interpreted?

B10:- Write a Python program to get the Factorial number of given number

B11:- Write a Python program to get the Fibonacci series of given range

B12.How memory is managed in Python?

B13.What is namespace in Python?

B14.What is the purpose continue statement in python?

Assignment Level Intermediate

I1: Write python program that swap two number with temp variable and without temp variable

I2:- Write a Python program to find whether a given number is even or odd, print out an appropriate message to the user.

I3:- : Write a Python program that compute the area of following
1) Triangle (accepts base and height)2) Circle (accept radius)

I4:- Write a Python program to test whether a passed letter is a vowel or not

I5:-Write a Python program to compute the value of a specified principal amount, rate of interest, and a number of years

I6.What are the tools that help to find bugs or perform static analysis?

I7.What are Python decorators?

I8.What is PEP 8?

Assignment Level Advance

A1:- Write a Python program to sort three integers without using conditional statements and loops.

A2:- Write a Python program that accepts an integer (n) and computes the value of n+nn+nnn.

A3:- Write a Python program to sum of three given integers. However, if two values are equal sum will be zero.

A4:- Write a Python program that will return true if the two given integer values are equal or their sum or difference is 5.

A5:- Write a python program to sum of the first n positive integers

Topic: String manipulation Accessing String,Basic Operation,String slice,Function and method

Assignment Level Basic

B1.Write a Python program to calculate the length of a string.

B2.Write a Python program to count the number of characters (character frequency) in a string

B3. What are negative indexes and why are they used?

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B4. Explain split(), sub(), subn() methods of "re" module in Python.

B5.How do you perform pattern matching in Python? Explain

B6. Write a Python program to count occurrences of a substring in a string

B7. Write a Python program to count the occurrences of each word in a given sentence

Assignment Level Intermediate

I1.Write a Python program to get a single string from two given strings,
separated by a space and swap the first two characters of each string.

I2.Write a Python program to add 'ing' at the end of a given string
 (length should be at least 3). If the given string already ends with 'ing' then add 'ly' instead
 If the string length of the given string is less than 3, leave it unchanged

I3.Write a Python program to find the first appearance of the substring 'not'
and 'poor' from a given string, if 'not' follows the 'poor', replace the whole 'not'...'poor'
substring with 'good'. Return the resulting string.

I4. Write a Python function that takes a list of words and returns the
length of the longest one.

I5. Write a Python function to reverses a string if it's length is a multiple of 4

Assignment Level Advance

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A1.Write a Python program to get a string made of the first 2 and the last 2 chars
 from a given a string. If the string length is less than 2, return instead of the empty string.
Go to the editor
Sample String : 'w3resource'
Expected Result : 'w3ce'
Sample String : 'w3'
Expected Result : 'w3w3'
Sample String : ' w'
Expected Result : Empty String

A2.Write a Python program to get a string from a given string where all occurrences
 of its first char have been changed to '$', except the first char itself
A3. Write a Python function to insert a string in the middle of a string.

Module 3 [Collections]Assignment

Topic: List

Introduction,Accessing List,OperationWorking with list,function and method

Assignment Level Basic

B1.What is List?How will you reverse a list?
B2.How will you remove last object from a list?
B3.Suppose list1 is [2, 33, 222, 14, 25], What is list1[-1] ?
B4.Differentiate between append() and extend() methods.?
B5. Write a Python function to get the largest number ,
smallest num and sum of all from a list
B6.How will you compare two lists?

Assignment Level Intermediate

I1. Write a Python program to count the number of strings where the
string length is 2 or more and the first and last character are same from a

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given list of strings.

l2.Write a Python program to remove duplicates from a list

l3.Write a Python program to check a list is empty or not.

l4.Write a Python function that takes two lists and returns True if the
y have at least one common member

I5.Write a Python program to generate and print a list of first and last 5 elements
where the values are square of numbers between 1 and 30

I6. Write a Python function that takes a list and returns a new list with
unique elements of the first list
l7. Write a Python program to convert a list of characters into a string

Assignment Level Advance

A1.Write a Python program to select an item randomly from a list.
A2.Write a Python program to find the second smallest number in a list.
A3. Write a Python program to get unique values from a list
A4.Write a Python program to check whether a list contains a sublist
A5.Write a Python program to split a list into different variables.

Assignment

Topic: Tuple
Introduction,Accessing tuple,Operations,Working,function and method

Assignment Level Basic

B1.What is tuple?Difference between list and tuple
B2.Write a Python program to create a tuple with different data types
B3. Write a Python program to create a tuple with numbers
B4.Write a Python program to convert a tuple to a string

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B5.Write a Python program to check whether an element exists within a tuple
B7.Write a Python program to find the length of a tuple.
B6.Write a Python program to convert a list to a tuple

Assignment Level Intermediate

I1. Write a Python program to reverse a tuple
I2.Write a Python program to replace last value of tuples in a list
i3.Write a Python program to find the repeated items of a tuple

Assignment Level Advance

A1.Write a Python program to remove an empty tuple(s) from a list of tuples.
A2.Write a Python program to unzip a list of tuples into individual lists
A3. Write a Python program to convert a list of tuples into a dictionary

Topic: Dictionaries Introduction,Accessing value in Dictionaries,working with Dictionaries,properties

Assignment Level Basic

B1.What is Dictionaries?

B2.How will you create a dictionary in python?How will you get all the keys from the dictionary?
How will you get all the values from the dictionary?

B3.How will you create a dictionary using tuples in python?
B4.Write a Python script to sort (ascending and descending) a dictionary by value

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B5. Write a Python script to concatenate following dictionaries to create a new one

B6.Write a Python script to check if a given key already exists in a dictionary

B7.How Do You Traverse Through A Dictionary Object In Python?

B8.How Do You Check The Presence Of A Key In A Dictionary?

Assignment Level Intermediate

I1 Write a Python script to print a dictionary where the keys are numbers between 1 and 15 (both
Sample Dictionary
{1: 1, 2: 4, 3: 9, 4: 16, 5: 25, 6: 36, 7: 49, 8: 64, 9: 81, 10: 100, 11: 121, 12: 144, 13: 169,
14: 196, 15: 225}

I2. Write a Python program to check multiple keys exists in a dictionary

I3.Write a Python script to merge two Python dictionaries

I4. Write a Python program to map two lists into a dictionary

I5. Write a Python program to combine two dictionary adding values for common keys.
d1 = {'a': 100, 'b': 200, 'c':300}
d2 = {'a': 300, 'b': 200, 'd':400}
Sample output: Counter({'a': 400, 'b': 400, 'd': 400, 'c': 300})

I6 .Write a Python program to print all unique values in a dictionary.

I7.Why Do You Use The Zip() Method In Python?

Assignment Level Advance

A1. Write a Python program to create and display all combinations of letters,
selecting each letter from a different key in a dictionary.

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Sample data : {'1':['a','b'], '2':['c','d']}
Expected Output:
ac
ad
bc
bd

A2.Write a Python program to find the highest 3 values in a dictionary

A3.Write a Python program to combine values in python list of dictionaries.
Sample data: [{'item': 'item1', 'amount': 400}, {'item': 'item2', 'amount': 300},
{'item': 'item1', 'amount': 750}]
Expected Output: Counter({'item1': 1150, 'item2': 300})

A4. Write a Python program to create a dictionary from a string.
Note: Track the count of the letters from the string.
Sample string : 'w3resource'
Expected output: {'3': 1, 's': 1, 'r': 2, 'u': 1, 'w': 1, 'c': 1, 'e': 2, 'o': 1}

Topic : Function and method Assignment

Level Basic

B1.Write a Python function to calculate the factorial of a number (a non-negative integer)

B2. Write a Python function to check whether a number is in a given range

B3.Write a Python function to check whether a number is perfect or not.

B4.Write a Python function that checks whether a passed string is palindrome or not

B5.How do you perform pattern matching in Python? Explain

B6.What is lambda function in python?What we call a function which is
incomplete version of a function?

B7.How Many Basic Types Of Functions Are Available In Python?

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Assignment Level Intermediate

I1.Write a Python program to access a function inside a function.

l2.Write a Python program to detect the number of local variables declared in a function.

l3. What is map function in Python?

I4.Does Python Have A Main() Method?

I5.What Does The *Args Do In Python?What Does The **Kwargs Do In Python?

I6.What Does The___Name___Do In Python?What Is The Purpose Of "End" In Python?

I7.What Does The Len() Function Do In Python? What Does The Ord() Function
Do In Python?

Assignment Level Advance

A1.Name few methods that are used to implement Functionally Oriented
Programming in Python?

A2.Write a program in Python to reverse a string without using
inbuilt function reverse string?

Topic: importing module,math module,random module,packages

Assignment Level Basic

B1.How can you pick a random item from a list or tuple?

B2.How can you pick a random item from a range?

B3.How can you get a random number in python?

B4.How will you set the starting value in generating random numbers?

B5.How will you randomizes the items of a list in place?

Assignment Level Intermediate

I1.Write a Python program to read a random line from a file.

I2. Write a Python program to convert degree to radian

I3. Write a Python program to calculate the area of a trapezoid

I4.Write a Python program to calculate the area of a parallelogram

I5.Write a Python program to calculate surface volume and area of a cylinder

I6.Write a Python program to returns sum of all divisors of a number

I7. Write a Python program to find the maximum and minimum numbers from the specified decimal numbers.

Assignment Level Advance

A1. Write a Python program to find the sum of the following decimal numbers and display the numbers in sorted order

Decimal numbers : 2.45, 2.69, 2.45, 3.45, 2.00, 0.04, 7.25

Expected Output :

Sum: 20.33
Sorted order: [Decimal('0.04'), Decimal('2.00'), Decimal('2.45'), Decimal('2.45'), Decimal('2.69'), Decimal('3.45'), Decimal('7.25')]

A2.Write a Python program to get the square root and exponential of a given decimal number

A3.Write a Python program to add, subtract, multiply and divide two fractions.

Expected Output :

2/3 + 3/7 = 23/21
2/3 - 3/7 = 5/21
2/3 * 3/7 = 2/7
2/3 / 3/7 = 14/9

Module 4[Input-Output]

Topic: Input-output

Printing on screen,reading data from keyboard,opening and closing console file

Assignment Level Basic

B1.What is File function in python?what is keywords to create and write file
B2.Write a Python program to read an entire text file
B3.Write a Python program to append text to a file and display the text.
B4. Write a Python program to read first n lines of a file
B5. Write a Python program to read last n lines of a file

Assignment Level Intermediate

i1. Write a Python program to read a file line by line and store it into a list
i2.Write a Python program to read a file line by line store it into a variable.
i3. Write a python program to find the longest words
i4.. Write a Python program to count the number of lines in a text file.
i5. Write a Python program to count the frequency of words in a file
i6.. Write a Python program to write a list to a file.
i7. Write a Python program to copy the contents of a file to another file

Assignment Level Advance

A1.Write a Python program to read a random line from a file.
A2. Write a Python program to assess if a file is closed or not
A3. Write a Python program to remove newline characters from a file.

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Topic: Exception Handling Exception,Except clause,Try and finally

Assignment Level Basic

B1:Explain Exception handling?What is an Error in Python?
B2. How many except statements can a try-except block have?
Name Some built-in exception classes:

B3. When will the else part of try-except-else be executed?

B4. Can one block of except statements handle multiple exception?

B5.When is the finally block executed?

B6. What happens when „r‟== 1 is executed?

b7. How Do You Handle Exceptions With Try/Except/Finally In Python?
exaplin with coding snippets

b8.write python program that user to enter only odd numbers, else will raise an exception.

Assignment Level Intermediate

I1.write program for Catching Specific Exceptions in Python
I2.write python program for file operations to makes sure the file is closed
even if an exception occurs.

I3.Explain Python Errors and Built-in Exceptions with coding snippets

Assignment Level Advance

A1Explain .User-Defined Exception in Python

A2write .program that will ask the user to enter a number until they guess a stored
number correctly.

A3.What is Assertions in Python? Write function that converts a temperature
from degrees Kelvin to degrees Fahrenheit
A4.Write program that except Clause with No Exceptions
A5.What is Argument of an Exception?Explain with coding snippets

Topic: Advance python class,object,attributes,inheritance,overloading

Assignment Level Basic

B1:-what are oops concepts?is multiple inheritance supported in java
B2:How To Define a Class in Python?What Is Self?Give An Example Of A Python Class
B3.. Write a Python class named Rectangle constructed by a
 length and width and a method which will compute the area of a rectangle

B4.Write a Python class named Circle constructed by a radius and two methods
which will compute the area and the perimeter of a circle

B5.Write a Python class named Circle constructed by a radius and two methods
which will compute the area and the perimeter of a circle

B6.Explain Inheritance in Python with an example.?What Is __init__?
Or What Is A Constructor In Python?

B7. What is Instantiation in terms of OOP terminology?
B8What is used To check whether an object o is an instance of class A?
B9.What relationship is appropriate for Course and Faculty?
B10.What relationship is appropriate for Student and Person?

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Assignment Level Intermediate

I1.Which function overloads the + operator?Which operator is overloaded by___invert___()?

I2.Which function overloads the >> operator?

I3.Create a class called Numbers, which has a single class attribute called MULTIPLIER, and a constructor which takes the parameters x and y (these should all be numbers).

Assignment Level Advance

A1.Write a Python class to implement pow(x, n)

[Regular Expression Assignment

Topic: Regular Expression Match,serach,matching vs searching,modifiers

Assignment Level Basic

B1.Does Python support strongly for regular expressions?
What are the other languages that support strongly for regular expressions?

B2.Write a Python program that matches a string that has an a followed by zero or more b's

B3.Write a Python program to check that a string contains only a certain set of characters
 (in this case a-z, A-Z and 0-9)

B4. Write a Python program where a string will start with a specific number

B5.Write a Python program to check for a number at the end of a string

Assignment Level Intermediate

I1.Write a Python program to find sequences of lowercase letters joined with a underscore.

I2.. Write a Python program that matches a word containing 'z', not start or end of the word.

I3. Write a Python program to separate and print the numbers and their position
of a given string

I4. Write a Python program to replace all occurrences of space, comma, or dot with a colon

I5.Write a Python program to remove all whitespaces from a string

I6. Write a Python program to remove everything except alphanumeric characters
from a string

Assignment Level Advance

A1.Write a Python program to remove multiple spaces in a string.

A2. Write a Python program to insert spaces between words starting with capital letters

A3.Write a Python program to remove words from a string of length between
1 and a given number

A4. Write a Python program to find all words which are at least 4 characters long in a string

Module 4[Networking] Assignment

**Topic: CGI introduction,architecture,acgi enviroment varaible,get and post
method,cookies,fileupload**

Assignment Level Basic

B1.What is CGI programming?What is Python CGI?

B2.How do I run a Python script on Windows Apache?

B3.explain CGI Architecture

B4.write hello world program using CGI program

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B5.what is CGI Enviorment variable?what is difference between GET and POST method?

B6.what is cookies?How It Works?

B7.how to set and Retrieve Cookies?exaplin with coding snippets

B8.write python program to upload file using cookies

B9.write python CGI program structure

Assignment Level Intermediate

I1.Write a Python program which passes two values to hello_get.py program
using GET method.

I2.What is Cgitb in Python?

I3. Write a Python programfor Passing Checkbox Data to CGI Program

I4. Write a Python program for Passing Radio Button Data to CGI Program

I5. Write a Python program for Passing Text Area Data to CGI Program

I6. Write a Python program for Passing Drop down Data to CGI Program

Assignment Level Advance

A1.How To Raise a "File Download" Dialog Box?

TOPIC: Multithreading
Assignment Level Basic

B1.How To Use The Thread Module To Create Threads?
how to detect the status of a python thread?Which method is used to identify a thread?

B2.What is the method that wakes up all thread waiting for the condition?
What are the libraries in Python that support threads?

B3.What are the lock types a Condition object can associate with?

B4.How Is Python Thread Safe?

B5.Which Python library runs a function as thread?
How does run() method is invoked?

B6.How to terminate a blocking thread?

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What is the method to retrieve the list of all active threads?

B7.Create A Thread Class To Print The Date

Assignment Level
Intermediate

I1.What would be the impact of multithreading on a uni-processor system?

I2.Which thread method is used to wait until it terminates?

What are the states/features supported by a Lock object?

TOPIC: GUI Programming tkinter programming and widgets

Assignment Level Basic

B1.how tkinter used in python?

B2/.How do you create a window and frame?

B3.How do you create an event loop?

B4.what is used To create a label under parent window?

B5.what is used To create a button under parent window with command processButton?

B6.How do you create a GUI component for displaying multiple-lines of text?

B7.How do you draw a rectangle centered at 100, 100 with width 100 and height 100 on canvas?

B8.How do you draw a red line from 100, 100 to 400, 500?

Assignment Level Intermediate

I1.Assume v1 = IntVar(), how do you set a new value 5 to v1.

I2.what is used To add a menubar?

I3.what is used to display a popup menu?

I4.what are property The mouse event object has ?

Module 5 [Database]   **Assignment**

Topic: Database

introduction,connection,executing query,transactions

Assignment Level Basic

B1.What database does Python use?What database API includes?>
B2.Explain benefit of python database programming
B2.What is PyMySQL in Python?
B3.How does Python integrate with SQL?
B4.What is MySQLdb Python?What is Generic database interface?

Assignment Level Intermediate

I1.what is relational database system interface?
I2.Write crud program using sql connection

Assignment Level Advance

A1.make login application using python connectivity
A2What are .Cursor objects?
A3.What is Error and exception handling in DB-API

TOPIC: Designing

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Html,css,javascript,ajax

Assignment Level Basic

B1.Create a simple web site using frame set. Each page of web site should contain
 header, menu,content area and footer. When I click on any link in menu, the related page
 should open in the content area.

B2.Create three pages and apply formatting to each of them using inline, internal and
 external Css respectively.

B3.Create a tabular layout using divisions and css floating

B4.Create a page with a division. Apply border, font color, background color and
more using css. Where division should resize when the browser window resizes.

Assignment Level Intermediate

I1.place an image in top right corner of the page. The image should remain at that position even
the page scrolls.

I2.Create link-pseudo classes using external css, to format links on the pages

I3.Create a Internal JavaScript for display an alert on Page Load

I4.Create a External JavaScript which takes an input from user and display in Alert.

I5.Print a Confirm message on Button click If user click ok then another alert should be there
and if user clicks on cancel then cancellation message should be display.

I6.Write a JavaScript to change the image source on button click

I7.Create a simple table with two rows and two columns using JavaScript document.write()
function

Assignment Level Advance

A1.Implement the Following event. OnClick, OnMouseHover, OnMouseOut..

A2.Create a division which should not resize on browser resize

A3.Create an elastic page layout.

Module5 [Django Framework] Assignment

TOPIC: WEB programming client-server architecture,advance django

Assignment Level Basic

B1.Why Django should be used for web-development?Explain how you can create a project in Django?

B2.how to check installed version of django?

B3. Mention what command line can be used to load data into Django?

Assignment Level Intermediate

I1.Explain what does django-admin.py makemessages command is used for?

I2what is .Django URLs?make program to create django urls

I3What is a QuerySet?Write program to create a new Post object in database:

I5.Mention what command line can be used to load data into Django?

I6..Explain what does django-admin.py makemessages command is used for?

I7.Write django appliocation to demonstarte following things.

1:)Need to use bootstrap template

2)There will be 2 Modules(User,Admin)

3)User have to register to site using (id,Firstname,lastname,password,Email,Mobile,city, gender,profile pic) .data should store in database

3.1)Email should send to its registered email id With message (Thanks for Registration)

3.2)Registered user can login using email id and password and rediredted to homepage otherwise error message to be shown on same page
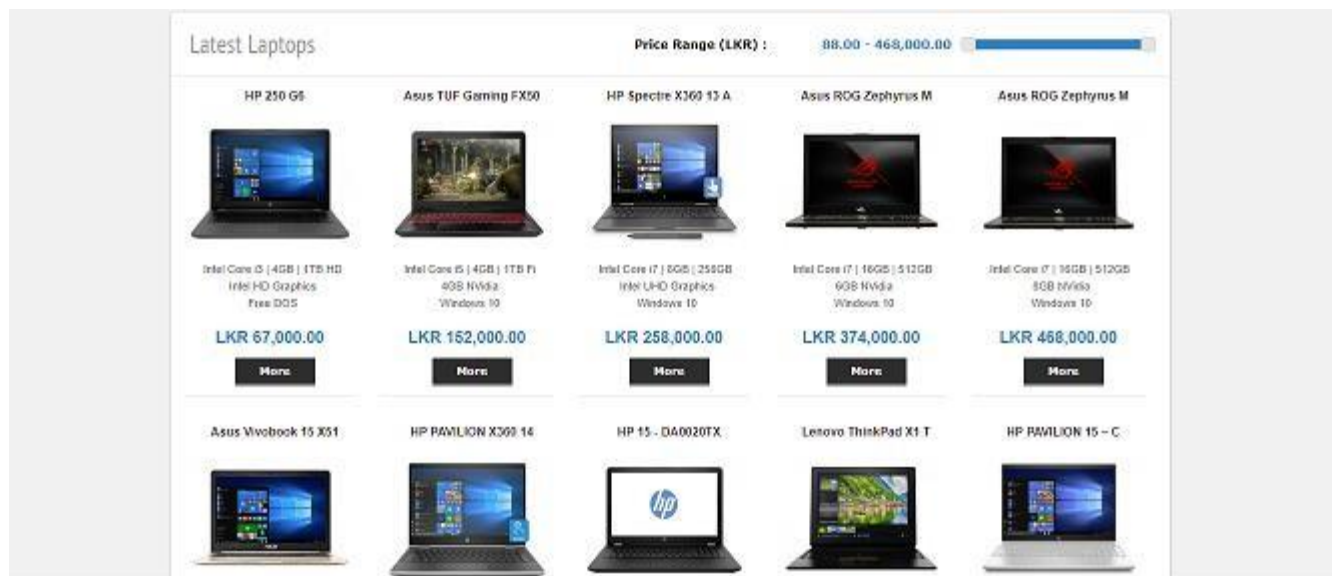
3.3)All field should validated with required filed and mobile number should have 10 digit and email id should be on proper format

3.4)User can edit all its detail

Assignment Level Advance

A1.Make Django application to demontsrate following things

1)There will be 2 modules(Admin,Product manager)

2)Admin can add product name(ex.Product id and product name) ex.(1,Samsung) , (2,Apple)..etc Data should store in Product_mst table with product id as primary key

3)Admin can add product sub_Category details Like (Product price,product image, product model,product Ram)   data should store in Product_sub_cat table

4)Admin can get product name as foreign key from product_mst table in
 product_sub_category_details page
5)Admin can view,update and delete all registered details of product

6)product manager can search product on searchbar and get all details about product

A2)Deploy project on github using python command