Python Hands-Ons

Hands-On	Tasks
1	Write python script to take no of arguments as input from the user. Then read no of arguments from the standard input. Print read arguments on output .

	Write python script to take one integer argument and then print as follows:
	    - If Value >0 and Value < 10 — Small
	    - If Value > 10 and Value <100 — Medium
	    - If Value <1000 — Large
	    - If Value > 1000 — Invalid

	Write a function to find larger of two numbers
	Write a program to take two numbers as input parameter and then ask for the arithmetic parameter to be performed. i.e "Enter Two numbers" 10 45 "Operations to perform " + Sum is 55 5.
	Write a program to take two integers as input. Print those two integers as output and then call a function to swap those two integers.

Paresh owns a company that moves containers between two islands. He has N trips booked,
and each trip has P containers.
Paresh has M boats for transporting containers, and each boat's maximum capacity is C containers.

Given the number of containers going on each trip, determine whether or not Paresh can perform all trips using no more than
 boats per individual trip.
If this is possible, print Yes; otherwise, print No.

Input Format

The first line contains three space-separated integers describing the respective values of N(number of trips), C (boat capacity),
and M(total number of boats).
The second line contains space-separated integers describing the value for container for each trip.

Constraints
* 1<= m,c ,p<=100

Output Format

Print Yes if Paresh can perform
booked trips using no more than boats per trip; otherwise, print No.

Sample Input 0
5 2 2

1 2 1 4 3

Sample Output
0
Yes

Sample Input
0
5 1 2
 1 2 1 4 3

Sample Output 0
No

2		Write a python function which counts the frequency of given character in a given string.
		  Inputs - A String
		      A Character whose frequency needs to be determined

		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 "Empty String"

		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.

		Write a Python function to remove the characters which have odd index values of a given string.
		Write a Python function to insert a string in the middle of a string. For odd length of string, remove the middle character and replace with given string.
		Write a program to take size of the list as input. Then read as many values as input. Store these details into list and print out list.
		Write a program to find index of given input parameter in the list.
		Write a program to find average of the list. List should not contain non arithmetic values.
		Read a sentence from the standard input. Find out how many times each word appear in given string. 1. i.e Input : "This is a Python learning" 2. Ouptput : This 1 Is 1 a 1 Python 1 Learning 1
		Write a program to read names and grades of each student in class of N student. Store these details into nested list. Write a function to find student with second highest marks.
		Write a program a function for ATM machine which takes amount as input and output should be number of notes of each denomination. The ATM has notes in following denomination : 2000, 500, 100.
		Create a program to take student information as input. Student will have First Name, Last Name, Roll No. Write a function to sort the list based on given input parameter. i.e By First Name or Last Name or Roll No.

3	

	Write a function that given a string it returns true if the string is a number. As there might be several definitions of what is the number create several solutions one for each definition:
	  Non negative integer.
	  Integer.
	  Real number.
	  In scientific notation. (something like this: 2.123e4)

	Use proper and specific exception handling in this and all previous and upcoming hands-ons.
4	Create a python class Author. Create a python class for Programming languages which must inherit Author class. Create a class which should print the details of given programming language as input.

	Create a python class named Algorithms. It should have following sorting algorithms:
	  Quick sort
	  Bubble sort
	  BFS (I/P Graph)
	  DFS (I/P Graph)
	  Merge Sort
	Create a class Sorting which should sort the list provided as input parameter using the algorithm which is also provided as input parameter. Create a main class which inherits the Sorting class and calls sort method with list and algorithm to use.

5	Given a xml file(sample.xml) print out all the files and folders hierarchically.
	  Take the filename as an argument. Use OOPS concepts.
	  Python script should contain class and all the required definitions should be defined within that class.
	
	(\\10.0.1.22\CrestData\UserData\Jay Joshi\Python handson\demo.xml)

	Write a function that takes json file(demo.json) as an input and return value for any of the requested key.
	  (The key may be at any level)
	  =============
	  sample input
	  =============
	
	  md5Hex
	
	  =============
	  desired ouput
	  =============
	
	  377d484478843e5e2d8b7eb935cbf598
	
	(\\10.0.1.22\CrestData\UserData\Jay Joshi\Python handson\demo.json)

	Create a Python script that will search a predetermined directory and list the items within, separating the files and directories into two lists that will be printed to the screen.

		Create a json file in following format.
		{ "folder_name_1": [filename_1, filename_2, ...], "folder_name_2": [filename_1, filename_2, ...] . . . }
		Fetch folder names from the json file and if that folder is present in a predefined location using pythonic way, check if all the files mentioned in the list is present or not.
		Print all the files which are not present in the folder.
6		(Serialization & Deserialization)
		1. Create a simple class(e.g. Employee) with some attributes(e.g. name, age, gender) and serialize-deserialize objects using JSON and Pickle and compare both of these methods. (Take values from user as inputs at the first time and to update them at the second time after deserializing and then serialize them)
		2. Try serializing file handler object.
		3. Use complex classes created in 'Classes' module and serialize-deserialize objects of them.
7		Implement a python program using requests, httplib2 and SOAP(with and without proxy) module to integrate "PhishTank" service. PhishTank is a free online service, which stores information about
		Phishing URLs.
		The Input to the program should be URL (e.g - http://www.travelswitchfly.com/ - Its a Phishing URL)
		PhishTank API - https://www.phishtank.com/api_info.php
		The output should tell us whether the input url is Phishing URL or not.
8		1. Refer this site : https://ransomwaretracker.abuse.ch/feeds/csv/
		This site contains ransomware feeds in csv format.
		Fetch data from this site.
		Create json file for each feed in a folder.
		First line on the page indicates the keys for json.
		File name must only contain value(s) from that perticular feed.
		Make sure json file for each feed must be created.