Graphic Era Hill University, Dehradun
(Answer Sheet for Online Examination Aug. 2021)

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Date: 10 Aug 2021 Course: BCA Branch: CSE Sem.: II Section:
Subject Name: Python Programming Subject Code: Page No. 1

Ques- ① Slicing of Strings

Slicing a string in python is about obtaining a substring from a given string by slicing it respectively from start to end.

```
str1 = 'Hello'
str2 = 'world'
str3 = str2[:2] + str1[2:] + ' ' + str1[:2] + str2[2:]
print(str3) # Wollo Herld
```

Ques- ② ways of removing item from a dictionary

(i) del keyword - test dict = { key1 : value1,
key2 : value2,
key3 : value3}

del test dict[key2] # removes {key2 : value2}

(ii) pop() - returns value of key that is removed

removed value = test dict.pop(key1) # removes {key1 : value1}

(iii) clear() - it empties the whole dictionary, removes all the items from it.

test dict.clear() # removes all the items from dictionary

copy() method makes a shallow copy of the dictionary. It doesnot modify the original dictionary

x = old dict.copy()

Now if we changed/updated X, the values of old dict won't change.

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Assignment operator '=' creates a deep copy of the dictionary. One memory location is used but different reference variables are pointing to it.

X = old dict

Now if we modified contents of X, old dict will also get modified.

Ques 3- Inheritance - Inheritance is defined as capability of one class to derive or inherit properties from some other class and use it whenever needed. It provides:

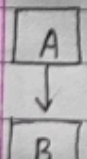
- real world representation of relationship among data
- reusability of code
- transitivity among the relationships

There are four types of inheritance in python.

- Single Inheritance
- Multiple Inheritance
- Multilevel Inheritance
- Heirarchical Inheritance

There's another type which is: Hybrid Inheritance

Single Inheritance: Single Inheritance allows a derived class to inherit properties from a single parent class to provide code reusability.



Single Inheritance

```
class Parent:
    pass
class Child(Parent):
    pass
```

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Ques 4 - Exception Handling in Python

If the python program contains some suspicious code that may throw some error/exception, we must place that code in try block. The try block must be followed with the except statement, which contains a block of code that will be executed if there comes an exception.

Else - this block contains code to be executed if there's no exception
Finally - this block is executed at last regardless of the exception

For example

```
try:
    # suspicious code
except:
    # run this if some exception occurs
else:
    # run this if no exceptions occured
finally:
    # always run this code
    # NO MATTER WHAT
```

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Ques 5- Pandas

Pandas is a very popular Python library built on top of Numpy. Pandas share many functions and data structures offered within within Numpy.
Pandas is basically used for data manipulation.

import pandas as pd
pd is very common abbreviation practiced by data science community.

Series and DataFrame
The two primary components of pandas are Series and DataFrame.

Series - A series is more like a 1-dimensional array which is essentially an indexed column.
DataFrame - A DataFrame is thought of as a 2-dimensional or multi-dimensional array which is a multi-dimensional table made up with collection of series.

for example: the following DataFrame is made of two series, ages and heights.

ages	heights
14	165
18	180
24	176
42	184

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