WTC All Slip Solution

----------Slip No 1----------

Q.1) Write the HTML code for generating the form as shown below. Apply the internal CSS to

following form to change the font size of the heading to 6pt and change the color to red and also

change the background color to yellow. [15]

Code

```
<html>
  <head>
  <title>HTML forms</title>
  <style type="text/css" >
  h2{
  font-family:elephant;
  background-color: aqua;
  padding-left: 50%;
  }
  form {
  padding: 20px;
  }
  #name {
```

```
  margin-left:17px;
  }
  #assignedto {
  margin-left: 12px;
  }
  #startdate
{
  margin-left: 15px;
}
#enddate
{
  margin-left: 15px;
}
#radio{
  margin-left: 15px;
  }
  #description {
  margin-left: 15px;
  }
  </style>
  </head>
<body bgcolor="aqua">
```

```
<h2>Project Management</h2>

<form action="#">

<label for="fname">Project Name:</label>

<input type="text" id="name" name="name"
placeholder="Name"><br><br>

<label for="assignedto">Assigned To:</label>

<input type="text" id="assignedto" name="assignedto"
placeholder="Assigned-To" ><br><br>

<label for="startdate">Start Date:</label>

  <input type="date" id="startdate" name="startdate"><br><br>

<label for="enddate">End Date:</label>

  <input type="date" id="enddate" name="enddate"><br><br>

<label for="priority">Priority:</label>

  <input type="radio" name="radio">High <input type="radio"
name="radio">Average

<input type="radio" name="radio">Low <br><br>

<label for="description">Description:</label>

<textarea cols="30" rows="5"></textarea><br><br>


<input type="submit" value="Submit">

<input type="Reset" value="Clear" >

</form>

</body>
```

</html>

Q.2 A) Write a Python program to create a Pie plot to get the frequency of the three species of

the Iris data (Use iris.csv) [10]

Code

Q 1 Pie plot of Iris dataset

```
import pandas as pd

import matplotlib.pyplot as plt

iris = pd.read_csv("iris.csv")

ax=plt.subplots(1,1,figsize=(10,8))

iris['Species'].value_counts().plot.pie(explode=[0.1,0.1,0.1],autopct='%1.1f %%',shadow=True,figsize=(10,8))

plt.title("Iris Species %")

plt.show()
```

B) Write a Python program to view basic statistical details of the data.(Use wineequality-red.csv)

Q 2 stat summary of wineequality dataset

```
import pandas as pd

rw=pd.read_csv("winequality-red.csv")

rw.head()
```

rw.describe()

---------- **Slip No - 2----------**

Q.1) Create HTML5 page with following specifications [15]

i) Title should be about your City.

ii) Color the background by Pink color.

iii) Place your city name at the top of page in large text and in blue color.

iv) Add names of the landmarks in your city, each in different color, style and font

v) Add any image at the bottom. (Use inline CSS to format the web page)

Code

```
<HTML>

<HEAD>

<TITLE><CENTER>My CITY</CENTER></TITLE></HEAD>

<BODY BGCOLOR="pink"><FONT SIZE="7" FACE="ARIAL" COLOR="BLUE">

<CENTER>PUNE</FONT><BR>

<BODY BGCOLOR="blue"></CENTER>

<ul>

<li><font size="5" face="arial" color="gray"><h2>VIMAN NAGAR</h2></font></li><BR>

<li><font size="5" face="arial" color="yellow"<h2>SHANIVAR WADA</h2></font></li><BR>
```

<font size="5" face="arial" color="red"<h2>KALYANI NAGAR</h2>

<font size="5" face="arial" color="black"<h2>KP</h2>

<BODY BGCOLOR="PINK"<CENTER><MARQUEE BEHAVIOUR="SLIDE"> Wonderful Place To Visit</MARQUEE><MARQUEE BEHAVIOUR="SLIDE">Pune Is best City for Education</MARQUEE><textarea row=15 columns=15>Pune is a city. It is situated in maharashtra.It is a hub for education.It is also known as an historical city.Pune is a city. It is situated in maharashtra.It is a hub for education.It is also known as an historical city.Pune is a city. It is situated in maharashtra.It is a hub for education.It is also known as an historical city.</textarea>

<IMG SRC="a.jpg" WIDTH="400" HEIGHT="400" ALT="IMAGE CAN BE DISPLAYED"></body>

</HTML>

Q.2 A) Write a Python program for Handling Missing Value. Replace missing value of salary,

age column with mean of that column.(Use Data.csv file).
[5]

Code

Q1 replacing with salary mean

```
import pandas as pd

sal=pd.read_csv("Salary.csv")

sal.head()

sal.mean()
```

sal.fillna(sal.mean())

Q.2 B) Write a Python program to generate a line plot of name Vs salary
Code

Q2 line plot

Code -

```
import pandas as pd

import matplotlib as plt

lp=pd.read_csv("Salary.csv")

lp.plot(x="YearsExperience",y="Salary")
```

Q.2 C) Download the heights and weights dataset and load the dataset froma given csv file into a

dataframe. Print the first, last 10 rows and random 20 rows also display shape of the

dataset

Q3) hight and weight dataset

-Code--

```
import matplotlib as plt

import pandas as pd

hw=pd.read_csv("weight-height.csv")

hw.head(10)

hw.tail(10)

hw.sample(20)
```

---------- Slip No - 3 ----------

.1) Write a program using html with following CSS specifications-

i. The background colour of the company name should be in green.

ii. The text colour of the company name should be red.

iii. The heading should be large –with font ''comic sans ms''

iv. The description of the company should be displayed in blue color in a paragraph.

----------Code----------

```
   <!DOCTYPE html>
<html>
  <head>
  <title> Infosys </title>
  <style>
  h1{
  text-align: center;
  background-color: green;
  color: red;
  font-family: "Comic Sans MS";
  }
  p {
  color: blue;
  }
```

</style>

</head>

<body>

<h1> Infosys </h1>

<p>

Infosys Limited is a global technology services firm that defines designs and delivers information technology (IT)-enabled business solutions to their clients. The Company has presence in 247 locations across 54 countries as on 31 March 2022. The Company is a leading provider of consulting technology outsourcing and next-generation digital services to enable clients to create and execute strategies for their digital transformation. It also provide end-to-end business solutions that leverage technology for their clients including technical consulting design development product engineering maintenance systems integration package-enabled consulting and implementation and infrastructure management services. It also provides software products to the banking industry.Infosys' strategy is to be a navigator for our clients as they ideate plan and execute on their journey to a digital future. The Company has developed Finacle a universal banking solution to large and medium size banks across India and overseas. Infosys BPO is a majority owned subsidiary. Through Infosys BPO the company provides business process management

services such as offsite customer relationship management finance and accounting and administration and sales order processing. Presently it is having marketing and technical alliance with FileNet IBM Intel Microsoft Oracle and System Application Products. Infosys Limited was incorporated as a Public Company in 1981 as Infosys Consultants Pvt. Ltd. The Company is India's second largest software exporter company led by Mr. N. R. Narayana Murthy at Karnataka. The Company was started by 7 people with the investment of USD 250. The Company became a Public Limited Company in the year 1992. The Company was the first Indian company to be listed on the NASDAQ in the year 1999. Infosys also forms a part of the NASDAQ-100 index. In April 2002 Infosys BPO Ltd was incorporated in India to address opportunities in business process management. In the year 2004 the company acquired 100% equity in Expert Information Services Pty Ltd Australia for USD 24.3 million.

</p>

</body>

</html>

Q.2 A)Write a Python program to create box plots to see how each feature i.e. Sepal Length,

Sepal Width, Petal Length, Petal Width are distributed across the three species. (Use

iris.csv dataset)

Q1 box plot on iris data set

----------code----------

```
import pandas as pd

import seaborn as sns

iris = pd.read_csv("iris.csv")

#Drop id column

iris = iris.drop('Id',axis=1)

box_data = iris #variable representing the data array

box_target = iris.Species #variable representing the labels array

sns.boxplot(data = box_data,width=0.5,fliersize=5)

sns.set(rc={'figure.figsize':(2,15)})
```

Q.2 B) Write a Python program to view basic statistical details of the data (Use Heights and

Weights Dataset)

Q2 basic stat details

----------Code----------

```
import pandas as pd

data = pd.read_csv("iris.csv")

print(data.describe())
```

----------Slip No-- 4----------

.1)Write a HTML code, which generate the following output

List of Books			
Item No	Item Name	Price	
		Rs.	Paise
1	Programming in Python	500	50
2	Programming in Java	345	00

----------Code----------

```
<html>
<head>
<title>
Program for printing table
</title>
<style>
table, td, th, tr{
border: 1px solid black;
border-collapse: collapse;
padding: 18px;
text-align: center;
}
</style>
</head>
<body>
<h1 align="center"> List of Books </h1>
<table align="center">
```

```
<tr>
<td rowspan="2"> Item No </td>
<td rowspan="2"> Item Name </td>
<td colspan="2"> Price </td>
</tr>
<tr>
<td> Rs. </td>
<td> Paise </td>
</tr>
<tr>
<td> 1. </td>
<td> Programming in Python </td>
<td> 500 </td>
<td> 50 </td>
</tr>
<tr>
<td> 2. </td>
<td> Programming in Java </td><td> 345 </td>
<td> 65 </td>
</tr>
</tbody>
</table>
```

```
</body>

</html>
```

Q.2 A) Generate a random array of 50 integers and display them using a line chart, scatter

plot, histogram and box plot. Apply appropriate color, labels and styling options.

----------Code----------

Q1 array of 50 no

```
import pandas as pd

import numpy as np

import matplotlib.pyplot as plt

x=np.random.randint(low = 1,high=100,size=50)

y=np.random.randint(low = 1,high=100,size=50)

print(x)

print(y)

plt.scatter(x,y)

plt.show()
```

Q.2 B) Write a Python program to print the shape, number of rows-columns, data types,

feature names and the description of the data(Use User_Data.csv) [5]

----------Code----------

Q2 print shape no of row column

```
import pandas as pd

sal=pd.read_csv("Salary.csv")

print('The DataFrame is :¥n', sal)


#get dataframe shape

shape = sal.shape

print('¥nDataFrame Shape :', shape)

print('¥nNumber of rows :', shape[0])

print('¥nNumber of columns :', shape[1])
```

----------Slip No-5----------

.1) Create following Bootstrap Web Layout Design and change Title, add your personal

information, educational information, job profile.

----------Code----------

```
<html lang="en">

<head>

<title>Bootstrap Example</title>

<meta charset="utf-8">

<meta name="viewport" content="width=device-width, initial-scale=1">

<link rel="stylesheet"

href="https://maxcdn.bootstrapcdn.com/bootstrap/3.4.1/css/bootstrap.min.css">
```

```
<script
src="https://ajax.googleapis.com/ajax/libs/jquery/3.5.1/jquery.min.js"></sc
ript>

<script
src="https://maxcdn.bootstrapcdn.com/bootstrap/3.4.1/js/bootstrap.min.js
"></script>

</head>

<body>

<div class="jumbotron text-center">

<h1>My First Bootstrap Page</h1>

36<p>Resize this responsive page to see the effect!</p>

</div>

<div class="container">

<div class="row">

<div class="col-sm-4">

<h3>Personal Information</h3>

<p>Add your personal information..</p>

<p>...</p>

</div>

<div class="col-sm-4">

<h3>Educational Information</h3>

<p>Add your educational information....</p>

<p>...</p>
```

```
</div>

<div class="col-sm-4">

<h3>Job Profile</h3>

<p>Add your job profile information.....</p>

<p>...</p>

</div>

</div>

</div>

</body>

</html>
```

Q.2 A) Generate a random array of 50 integers and display them using a line chart, scatter

plot, histogram and box plot. Apply appropriate color, labels and styling options.

----------Code----------

Q1 array of 50 no

```
import pandas as pd

import numpy as np

import matplotlib.pyplot as plt

x=np.random.randint(low = 1,high=100,size=50)

y=np.random.randint(low = 1,high=100,size=50)

print(x)
```

```
print(y)

plt.scatter(x,y)

plt.show()
```

Q.2 B) Write a Python program to print the shape, number of rows-columns, data types,

feature names and the description of the data(Use User_Data.csv)

----------Code----------

Q2 print shape no of row column

```
import pandas as pd

sal=pd.read_csv("Salary.csv")

print('The DataFrame is :¥n', sal)


#get dataframe shape

shape = sal.shape

print('¥nDataFrame Shape :', shape)

print('¥nNumber of rows :', shape[0])

print('¥nNumber of columns :', shape[1])
```

----------Slip No 8----------

.1) Design an HTML form to accept two strings from the user. Write a PHP script for the

following.

a. Find whether the small string appears at the start of the large string.

b. Find the position of the small string in the big string.

c. Compare both the string for first n characters, also the comparison should not be case

sensitive.

----------Code----------

```
<html>
<body>
<form method=post action="slip8.php">
Enter Large string:<input type=text name="str1"/><br>
Enter small string:<input type=text name="str2"/><br>
<input type=submit name="SUBMIT">
<input type=reset name="RESET"><br>
</form>
</body>
</html>
<?php
$s1=$_POST['str1'];
$s2=$_POST['str2'];
if(strpos($s1,$s2)==0)
echo "<b>first occurance of ¥$large string is:$s2</b><br>";
else
echo "<b> ¥$small string is not present at starting:</b><br>";
```

```
$a=strpos($s1,$s2);
echo "<b>first occurance of ¥$small string is:$a</b><br>";
if(strcasecmp($s1,$s2)==0)
{
echo"EQUAL";
}
else
{
echo"NOTEQUAL";
}
?>
```

Q.2) Write a program in python to perform following task :

Standardizing Data (transform them into a standard Gaussian distribution with a mean

of 0 and a standard deviation of 1) (Use winequality-red.csv)

Q 2 stat summary of wineequality dataset

----------Code----------

```
import pandas as pd
rw=pd.read_csv("winequality-red.csv")
rw.head()
rw.describe()
```

----------Slip No 10----------

.1) Write a script to accept two integers(Use html form having 2 textboxes).

Write a PHP script to,

a. Find mod of the two numbers.

b. Find the power of first number raised to the second.

c. Find the sum of first n numbers (considering first number as n)

d. Find the factorial of second number.

(Write separate function for each of the above operations.)
[15]

----------Code----------

```
<html><body>

<form method=post action="slip10.php">

Enter 1<sup>st</sup> Number:<input type=text name="str1"/><br>

Enter 2<sup>nd</sup> Number:<input type=text name="str2"/><br>

<input type=submit name="SUBMIT">

<input type=reset name="RESET"><br>

</form>

</body>

</html>

<?php

$n1=$_POST['str1'];

$n2=$_POST['str2'];
```

```
function findmod($a,$b)
{
    echo "<P>The    value of variables is $a &    $b</P>";
$result = $a % $b;
  echo "<P>The modulus of these numbers    is $result</P>";
}
function findpow($a,$b)
{
      echo "The Power of two numers is".pow($a,$b);
}
function findsum($n)
{
      $sum = 0;
      for ( $i=1; $i<=$n; $i++)
          $sum = $sum + $i;
        echo "<P>The Sum of these numbers    is $sum</P>";
}
function findfact($n)
{
      $fact=1;
      for ( $i=1; $i<=$n; $i++)
          $fact = $fact * $i;
```

```
        echo "<P>The Factorial of second number     is $fact</P>";
}
findmod($n1,$n2);
findpow($n1,$n2);
findsum($n1);
findfact($n2);
?>
```

Q.2 A) Write a python program to Display column-wise mean, and median for SOCR_HeightWeight dataset. [10]

Q1 Column wise mean of height weight dataset

----------Code----------

```
import pandas as pd
hw=pd.read_csv("weight-height.csv")
m1=hw["Height"].mean()
print("Mean Height ",m1)
m2=hw["Height"].median()
print("Median Height",m2)
n1=hw["Weight"].mean()
print("Mean Weight ",m1)
n2=hw["Weight"].median()
print("Median weight",m2)
```

Q.2 B) Write a python program to compute sum of Manhattan distance between all pairs of

points.

Q2 Manhattamn Distance(Cityblock distance

----------Code----------

```
import pandas as pd

from scipy.spatial.distance import cityblock

x=(1,2,3,4,5,6)

y=(2,3,4,5,6,7)

print(cityblock(x,y))
```

----------Slip No - 12----------

Q.1) Write a PHP script for the following: Design a form to accept two numbers from the user.

Give options to choose the arithmetic operation (use radio buttons). Display the result on the next

form. (Use the concept of function and default parameters. Use 'include' construct or require

statement)
[15]

----------Code----------

Extension File Name ------- slip12.inc

```
<?php
```

```
function add($n1=15,$n2=5)
{
return($n1+$n2);
}
function sub($n1,$n2){
return($n1-$n2);
}
function mul($n1,$n2)
{
return($n1*$n2);
}
function div($n1,$n2)
{
return($n1/$n2);
}
?>
```

slip No 12) html code

fileName ---- slip12.html

```
<html><body>
<form method=post action="slip12.php">
Enter 1<sup>st</sup> Number:<input type=text name="str1"/><br>
```

```
Enter 2<sup>nd</sup> Number:<input type=text name="str2"/><br>
<input type=radio name="st" value="add">ADDITION</input><br>
<input type=radio name="st" value="sub">SUBTRACTION</input><br>
<input type=radio name="st" value="mul">MULTIPLICATION</input><br>
<input type=radio name="st" value="div">DIVISION</input><br>
<input type=submit name="SUBMIT">
<input type=reset name="RESET"><br>
</form>
</body>
</html>
```

slip No 12) php code

FileName ------- slip12.php

```
<?php
include('slip12.inc');
$n1=$_POST['str1'];
$n2=$_POST['str2'];
$cl=$_POST['st'];
switch($cl)
{
case 'add':
echo "<b> Addition is : ".add($n1,$n2)."</b><br>";
```

```
break;

case'sub':echo "<b> Subtraction is :".sub($n1,$n2)."</b><br>";

break;

case 'mul':

echo "<b>Multiplication is : ".mul($n1,$n2)."</b><br>";

break;

case 'div':

echo "<b>Division is : ".div($n1,$n2)."</b><br>";

break;

}

?>
```

Q.2 A) Generate a random array of 50 integers and display them using a line chart, scatter plot,

histogram and box plot. Apply appropriate color, labels and styling options.
[10]

Q2 Draw scatter plot line chart for 50 array elements

----------Code----------

```
import pandas as pd

import numpy as np

import matplotlib.pyplot as plt

x=np.random.randint(low = 1,high=100,size=50)

y=np.random.randint(low = 1,high=100,size=50)
```

```
print(x)

print(y)

plt.scatter(x,y)

plt.show()
```

Q.2 B) Write a Python program to create data frame containing column name, salary, department

add 10 rows with some missing and duplicate values to the data frame. Also drop all null and

empty values. Print the modified data frame

Q2 make 10 entries

----------Code----------

```
import pandas as pd

header=("name","salary","dept")

data={('swapnil',20000,'computer'),('shital',30000,'commerce')}

#make 10 entries with duplicate and null

df=pd.DataFrame(data=data,columns=header)

print(df)
```

----------Slip No - 13 ----------

.1) Write a PHP script to create a chess board using CSS on table cells.

----------Code----------

```
<!DOCTYPE html>
```

```
<html lang="en">
<head>
    <title>Chess Board</title>
    <style>

      html{
          background: grey;
        }
    body{
          background:white;
          height:800px;
          width:800px;
          margin:30px auto;
    }
    .row{
          width:100%;
          height: 100px;
          float: left;
    }
    .box{
          height:100px;
          width: 100px;
```

```
            float: left;
            font-size:70px;
            text-align: center;
            color:orange;
        }
        .box:hover{
            background:red;
        }
        .black{
            background: black;
        }
        </style>
</head>
<body>
        <div class="row">
            <div class="box">&#9820;</div>
            <div class="box black">&#9821;</div>
            <div class="box"></div>
            <div class="box black"></div>
            <div class="box"></div>
            <div class="box black"></div>
            <div class="box"></div>
```

```
        <div class="box black"></div>
    </div>
    <div class="row">
        <div class="box black"></div>
        <div class="box"></div>
        <div class="box black"></div>
        <div class="box"></div>
        <div class="box black"></div>
        <div class="box"></div>
        <div class="box black"></div>
        <div class="box"></div>
    </div>
    <div class="row">
        <div class="box"></div>
        <div class="box black"></div>
        <div class="box"></div>
        <div class="box black"></div>
        <div class="box"></div>
        <div class="box black"></div>
        <div class="box"></div>
        <div class="box black"></div>
    </div>
```

```
<div class="row">
        <div class="box black"></div>
        <div class="box"></div>
        <div class="box black"></div>
        <div class="box"></div>
        <div class="box black"></div>
        <div class="box"></div>
        <div class="box black"></div>
        <div class="box"></div>
</div>
<div class="row">
        <div class="box"></div>
        <div class="box black"></div>
        <div class="box"></div>
        <div class="box black"></div>
        <div class="box"></div>
        <div class="box black"></div>
        <div class="box"></div>
        <div class="box black"></div>
</div>
<div class="row">
        <div class="box black"></div>
```

```
        <div class="box"></div>
        <div class="box black"></div>
        <div class="box"></div>
        <div class="box black"></div>
        <div class="box"></div>
        <div class="box black"></div>
        <div class="box"></div>
    </div>
    <div class="row">
    <div class="box"></div>
    <div class="box black"></div>
        <div class="box"></div>
        <div class="box black"></div>
        <div class="box"></div>
        <div class="box black"></div>
        <div class="box"></div>
        <div class="box black"></div>
    </div>
    <div class="row">
        <div class="box black"></div>
        <div class="box"></div>
        <div class="box black"></div>
```

```
            <div class="box"></div>

            <div class="box black"></div>

            <div class="box"></div>

            <div class="box black"></div>

            <div class="box"></div>

        </div>

</body>

</html>
```

Q.2 A) Write a Python program to create a graph to find relationship between the petal length

and petal width.(Use iris.csv dataset)
[10]

----------Code ----------

```
import pandas as pd

import matplotlib.pyplot as plt

iris = pd.read_csv("iris.csv")

fig = iris[iris.Species=='Iris-
setosa'].plot.scatter(x='PetalLengthCm',y='PetalWidthCm',color='orange',
label='Setosa')

iris[iris.Species=='Iris-
versicolor'].plot.scatter(x='PetalLengthCm',y='PetalWidthCm',color='blue',
label='versicolor',ax=fig)
```

```
iris[iris.Species=='Iris-
virginica'].plot.scatter(x='PetalLengthCm',y='PetalWidthCm',color='green',
label='virginica', ax=fig)

fig.set_xlabel("Petal Length")

fig.set_ylabel("Petal Width")

fig.set_title(" Petal Length VS Width")

fig=plt.gcf()

fig.set_size_inches(12,8)

plt.show()
```

Q2 Write a Python program to find the maximum and minimum value of a given flattened array.

----------Code ----------

```
import numpy as np

a = np.arange(4).reshape((2,2))

print("Original flattened array:")

print(a)

print("Maximum value of the above flattened array:")

print(np.amax(a))

print("Minimum value of the above flattened array:")

print(np.amin(a))
```

----------Slip No 15 ----------

.1) Design a form to accept string from the user and perform the following operations

a. To select first 5 words from the string

b. Convert the given string to lowercase and then to Title case.

c. Pad the given string with “*” from left and right both the sides.

d. Remove the leading whitespaces from the given string.

e. Find the reverse of given string.
[15]

----------Code----------

----------HTML Code ----------

```
<html>

<head>

<title>Customer information </title>

</head>

<body>

<form method=post action="slip15.php">

Enter the String : <input type=text name="str"><br><br>

<input type=submit value="OK">

</form>

</body>

</html>
```

slip No 15) ---------- solution php code----------

```
<?php
$str1=$_POST['str'];
echo "***Finding Substring***<br>";
$str2=substr($str1,0,5);
echo "<br>First five characters from string are:".$str2."<br>";
echo "<br>***Lowercase***"."<br>";
print("¥n".strtolower($str1));
echo "<br><br>***Padding***<br>";
print("¥n".str_pad($str1,15,"-",STR_PAD_BOTH));
echo "<br><br>***Remove White Spaces<br>";
print("¥n".rtrim($str1));
echo "<br><br>***Reverse the String***<br>";
print("¥n".strrev($str1));
?>
```

Q.2 A) Generate a random array of 50 integers and display them using a line chart, scatter

plot, histogram and box plot. Apply appropriate color, labels and styling options.
[10]

----------Code----------

```
import pandas as pd
import numpy as np
```

```
import matplotlib.pyplot as plt

x=np.random.randint(low = 1,high=100,size=50)

y=np.random.randint(low = 1,high=100,size=50)

print(x)

print(y)

plt.scatter(x,y)

plt.show()
```

Q.2 B) Create two lists, one representing subject names and the other representing marks

obtained in those subjects. Display the data in a pie chart.
[5]

----------Code----------

```
from matplotlib import pyplot as plt

import numpy as np

subject = ['OS', 'FDS', 'JAVA','PHP', 'BlockChain', 'python']

data = [23, 17, 35, 29, 12, 41]

fig = plt.figure(figsize =(10, 7))

plt.pie(data, labels = subject)

plt.show()
```

----------slip No 16----------

.1) Write a PHP script for the following: Design a form to accept the marks of 5 different

subjects of a student, having serial number, subject name & marks out of 100. Display the

result in the tabular format which will have total, percentage and grade. Use only 3 text

boxes.(Use array of form parameters)
[15]

----------Code----------

```
<html><head></head>

<body><center><table><form name=f method=get action="slip16.php">

<tr><th colspan=2>Enter the details </th></tr>

<tr><td>Enter the roll no :</td><td><input type=text name=r ></td></tr>

<tr><td>Enter name:</td><td><input type=text name=n ></td></tr>

<tr><td>Java:</td><td><input type=text name=s1 ></td></tr>

<tr><td>Php:</td><td><input type=text name=s2 ></td></tr>

<tr><td>DS:</td><td><input type=text name=s3 ></td></tr>

<tr><td>OS:</td><td><input type=text name=s4 ></td></tr>

<tr><td>Python:</td><td><input type=text name=s5 ></td></tr>

<tr><td>Submit:</td><td><input type=submit name=s
value=Proceed></td></tr></center></form></body></html>

<?php

$r=explode(",",$_GET['r']);

$n=explode(",",$_GET['n']);

$s1=explode(",",$_GET['s1']);
```

```
$s2=explode(",",$_GET['s2']);

$s3=explode(",",$_GET['s3']);

$s4=explode(",",$_GET['s4']);

$s5=explode(",",$_GET['s5']);

?>

<html>

<body>

<centre><table border=1>

<?php

$c=count($r);

echo "<tr><th>Roll
no</th><th>Name</th><th>s1</th><th>s2</th><th>s3</th><th>s4</th><t
h>s5</th><th>total</th><th>per</th></tr>";

for($i=0;$i<$c;$i++)

{

$t=$s1[$i]+$s2[$i]+$s3[$i]+$s4[$i]+$s5[$i];$p=$t/5;

echo
"<tr><td>".$r[$i]."</td><td>".$n[$i]."</td><td>".$s1[$i]."</td><td>".$s2[$i]
."</td><td>".$s3[$i]."</td><td>".$s4[$i]."</td><td>".$s5[$i]."</td><td>".$t
."</td><td>".$p."</td></tr>";

}

?>

</table>
```

```
</center>

</body>

</html>
```

Q.2 A) Write a python program to create two lists, one representing subject names and the other

representing marks obtained in those subjects. Display the data in a pie chart and bar chart.
[10]

----------Code----------

```
Q1 pie chart for subject and marks

from matplotlib import pyplot as plt

import numpy as np

subject = ['OS', 'FDS', 'JAVA','PHP', 'BlockChain', 'python']

data = [23, 17, 35, 29, 12, 41]

fig = plt.figure(figsize =(10, 7))

plt.pie(data, labels = subject)

plt.show()
```

Q.2 B) Write a python program to create a data frame for students' information such as name,

graduation percentage and age. Display average age of students, average of graduation

percentage.
[5]

----------Code----------

```
import pandas as pd

header=("name","per","age")

data={('swapnil',87,24),('shital',92,24)}

#make 10

df=pd.DataFrame(data=data,columns=header)

m1=df[‘per’].mean()
```

----------slip No 17----------

.1) Write a PHP script to sort the following associative array :

array(“Sagar"=>"31","Vicky"=>"41","Leena"=>"39","Ramesh"=>"40") in

a) ascending order sort by Value

b) ascending order sort by Key

c) descending order sorting by Value

d) descending order sorting by Key
[15]

----------Code----------

```
<?php

$array=array("Sagar"=>"31","Vicky"=>"41","Leena"=>"39","Ramesh"=>"40"
);

echo "Associative array : Ascending order sort by value <br>";

asort($array);

foreach($array as $y=>$y_value)
```

```
{
echo "Age of ".$y." is : ".$y_value."<br>";
}
echo "Associative array : Ascending order sort by Key <br>";
ksort($array);
foreach($array as $y=>$y_value)
{
echo "Age of ".$y." is : ".$y_value."<br>";
}
echo "Associative array : Descending order sorting by Value<br>";
arsort($array);
foreach($array as $y=>$y_value)
{
echo "Age of ".$y." is : ".$y_value."<br>";
}
echo "Associative array : Descending order sorting by Key<br>";
krsort($array);
foreach($array as $y=>$y_value)
{
echo "Age of ".$y." is : ".$y_value."<br>";
}
?>
```

Q.2 A) Write a Python program to draw scatter plots to compare two features of the iris dataset
[10]

----------Code----------

```
from sklearn.datasets import load_iris
import matplotlib.pyplot as plt


iris = load_iris()
def plot_iris(f1, f2):
    n_samples = len(iris.target)
    for t in set(iris.target):
        x = [iris.data[i,f1] for i in range(n_samples) if iris.target[i]==t]
        y = [iris.data[i,f2] for i in range(n_samples) if iris.target[i]==t]
        plt.scatter(x,
                    y,
                    color=['red', 'green', 'blue'][t],
                    label=iris.target_names[t])
    plt.xlabel(iris.feature_names[f1])
    plt.ylabel(iris.feature_names[f2])
    plt.title('Iris Dataset')
    plt.legend(iris.target_names, loc='lower right')
```

```
    plt.show()
n_features = len(iris.feature_names)
pairs = [(i, j) for i in range(n_features) for j in range(i+1, n_features)]
for (f1, f2) in pairs:
    plot_iris(f1, f2)
```

Q.2 B) Write a Python program to create a data frame containing columns name, age , salary,

department . Add 10 rows to the data frame. View the data frame. [5]

----------Code----------

```
import pandas as pd
header=("name","per","age")
data={('swapnil',26,10,000),('shital',30,12,000)}
#make 10
df=pd.DataFrame(data=data,columns=header)
m1=df[‘per’].mean()
```

----------slip No 18----------

.1) Write a menu driven program to perform the following operations on an associative array

a. Reverse the order of each element’s key-value pair.

b. Traverse the element in an array in random order.

c. Convert the array elements into individual variables.

d. Display the elements of an array along with key

----------**Code**----------

```
<html>

<body>

<form action="slip18.php" method="get">

<center>

<h1>***Array Opearations ***</h1>

<h3><input type="radio" name="op" value="1">Reverse the order of each elt's key-value pair</h3>

<h3><input type="radio" name="op" value="2">Traverse the elements in array in random order</h3>

<h3><input type="radio" name="op" value="3">Display the elements of array along with key</h3>

<h3><input type="radio" name="op" value="4">Convert the array elements into indivisual variable</h3>



<input type="submit" value="Submit">

</center>

</form>

</body>

</html>
```

----------PhP code----------

```
<?php
```

```
$op = $_GET['op'];
    $input = array("Peter"=>"35", "Ben"=>"37", "Joe"=>"43");
   switch($op)
   {
            case 1 :    $flipped = array_flip($input);

                    print_r($flipped);

                    break;
            case 2 :    shuffle($input);
                      print_r($input);
                      break;
            case 3 :    foreach($input as $key=>$value)
                          {
                         echo"key:$key    val:$value.<br>";
                          }
                      break;
            case 4:    extract($input);
                     echo "¥$Peter = $Peter; ¥$Ben = $Ben;
                      ¥$Joe = $Joe";
                      break;
    }
?>
```

Q.2 A) Write a Python program to create box plots to see how each feature i.e. Sepal Length,

Sepal Width, Petal Length, Petal Width are distributed across the three species. (Use iris.csv dataset)
[10]

----------Code----------

```
Q1 box plot on iris data set

import pandas as pd

import seaborn as sns

iris = pd.read_csv("iris.csv")

#Drop id column

iris = iris.drop('Id',axis=1)

box_data = iris #variable representing the data array

box_target = iris.Species #variable representing the labels array

sns.boxplot(data = box_data,width=0.5,fliersize=5)

sns.set(rc={'figure.figsize':(2,15)})
```

.2 B) Use the heights and weights dataset and load the dataset from a given csv file into a

dataframe. Print the first, last 5 rows and random 10 row
[5]

----------Code----------

----------slip No 20----------

.1) Write a menu driven program to perform the following operations on associative arrays:

a) Split an array into chunks

b) Sort the array by values without changing the keys.

c) Filter the even elements from an array.
[15]

----------Code----------

```
<html>

</title>

<body><center>

<table><form name=f method=get action="slip20.php">

<tr><th colspan=2>Menu</th></tr>

<tr><td>1.Split array into chunks</td>

<td><input type=radio name=r value=1></td></tr>

<tr><td>2.Sort array by value without changing key</td>

<td><input type=radio name=r value=2></td></tr>

<tr><td>3.Filter even elements</td><td><input type=radio name=r
value=3></td></tr>

<tr><td>SUBMIT</td><td><input type=submit name=s
value=go></td></tr>
```

```
<center>
</form></table></body></html>
<?php
$c=$_GET['r'];
$a=array('pen'=>15,'pencil'=>5,'rubber'=>3,'book'=>30);
$a1=array('ira'=>15,'nia'=>57,'ria'=>3,'alia'=>30);
$a2=array(15,48,10,155,2,78);
switch($c)
{
case 1:      echo"<br>Array in chunks of two <br>";
          print_r(array_chunk($a,2,true));      echo"<br><br>";
               print_r(array_chunk($a1,2,true));      echo"<br><br>";
            break;
case 2:      print_r($a);      asort($a);//array sort by values
          echo"<br>Array in ascending order<br>";
            print_r($a);
               arsort($a);//reverse array sort by values
              echo"<br>Array in desecending order<br>";
               print_r($a);
                                 break;
  case 3:      function iseven($v)
                                {
```

```
                return (!($v & 1));
            }
            print_r($a2);
            echo "<br>";
        echo"<br>Filter the even elements from an array.<br>";
            print_r(array_filter($a2,'iseven'));
                break;
  }
?>
```

.2 A) Generate a random array of 50 integers and display them using a line chart, scatter plot,

histogram and box plot. Apply appropriate color, labels and styling options.
[10]

----------Code----------

```
import pandas as pd
import numpy as np
import matplotlib.pyplot as plt
x=np.random.randint(low = 1,high=100,size=50)
y=np.random.randint(low = 1,high=100,size=50)
print(x)
print(y)
```

```
plt.scatter(x,y)

plt.show()
```

.2 B) Add two outliers to the above data and display the box plot

----------Code----------

```
showfliers=False

.boxplot()

vert=False

df.apply

df_toocool=df[df['Column']<68]

'Column'

df_OutOfRange=df[df['Column']<68, df['Column']>72]

df_OutOfRange=df[(df['Column']<68) & (df['Column']>72)]
```

----------slip No 24----------

.1) Write a PHP program to read two file names from user and append content of first file into

second file.
[15]

----------Code----------

Slip No 24 solution

----------Code----------

Slip 24 code solution

```
</html>


<?php
$file1=$_POST['file1'];
$file2=$_POST['file2'];
$f1= fopen($file1,"a") or exit("Unable to open file!");
$f2=fopen($file2,"r") or exit("Unable to open file!");

echo"Appending....";
while(($ch=fgetc($f2))!==false)
fwrite($f1,$ch);

fclose($f1);
fclose($f2);

echo"File appended successfully!";

?>
```

slip No solution 24) a) text file

this is first file

this is second file

slip No solution 24) b) text file

this is second file.

.2 A) Import dataset “iris.csv”. Write a Python program to create a Bar plot to get the

frequency of the three species of the Iris data.
[10]

----------Code----------

```
import pandas as pd

import matplotlib.pyplot as plt

iris = pd.read_csv("iris.csv")

ax=plt.subplots(1,1,figsize=(10,8))

iris['Species'].value_counts().plot.pie(explode=[0.1,0.1,0.1],autopct='%1.1f %%',shadow=True,figsize=(10,8))

plt.title("Iris Species %")

plt.show()
```

.2 B) Write a Python program to create a histogram of the three species of the Iris data.
[5]

----------Code----------

```
import matplotlib.pyplot as plt

import seaborn as sns

from scipy.stats import norm

import pandas as pd


sns.set()

iris = sns.load_dataset('iris')

# make the 'species' column categorical to fix the order

iris['species'] = pd.Categorical(iris['species'])


fig, axs = plt.subplots(2, 2, figsize=(12, 6))

for col, ax in zip(iris.columns[:4], axs.flat):

    sns.histplot(data=iris, x=col, kde=True, hue='species',
common_norm=False, legend=ax==axs[0,0], ax=ax)

plt.tight_layout()

plt.show()
```

----------slip No 25----------

Q.1) Write a menu driven program to perform various file operations. Accept filename from

user.

[15]

a) Display type of file.

b) Display last modification time of file

c) Display the size of file

d) Delete the file

----------Code----------

```
<html><body>

<form method=post action="slip25.php">

  File name:<input type=text name="str1"/><br><br>


<input type=radio name="st[]" value="s1"> THE SIZE OF FILE</input><br>

<input type=radio name="st[]" value="s2"> LAST
ACCESS,CHANGED,MODIFIED</input><br>

<input type=radio name="st[]" value="s3"> TYPE OF FILE</input><br>

<input type=radio name="st[]" value="s4"> DELETE FILE</input><br>


<input type=submit name="SUBMIT">

<input type=reset name="RESET"><br>

</form>

</body>
```

```
</html>


<?php
$file1=$_POST['str1'];
//$file2=$_POST['str2'];
$cl=$_POST['st'];



for($i=0;$i<count($cl);$i++)
{
  if($cl[$i]=='s1')
{
$c=filesize($file1);
echo"File size:<input type=text value=$c><p>"."byte";


}


else if($cl[$i]=='s2')
{
$c=date("d M Y,h:m:s",fileatime($file1));
echo"<b>Last Acees:</b>$c><br>";
```

```
$c1=date("d M Y,h:m:s",filectime($file1));
echo"<b>Last Changed:</b>$c1<br>";

$c2=date("d M Y,h:m:s",filemtime($file1));
echo"<b>Last Modified:</b>$c2";
}



else if($cl[$i]=='s3')
{

$a=filetype($file1);
Echo "File type=$a";
}

else if($cl[$i]=='s4')
{
unlink($file1);
echo"File is deleted";

}
```

}

?>

.2 A) Generate a random array of 50 integers and display them using a line chart, scatter plot,

histogram and box plot. Apply appropriate color, labels and styling options.
[10]

----------Code----------

```
import pandas as pd

import numpy as np

import matplotlib.pyplot as plt

x=np.random.randint(low = 1,high=100,size=50)

y=np.random.randint(low = 1,high=100,size=50)

print(x)

print(y)

plt.scatter(x,y)

plt.show()
```

Q.2 B) Create two lists, one representing subject names and the other representing marks

obtained in those subjects. Display the data in a pie chart.
[5]

----------Code----------

```
from matplotlib import pyplot as plt

import numpy as np

subject = ['OS', 'FDS', 'JAVA','PHP', 'BlockChain', 'python']

data = [23, 17, 35, 29, 12, 41]

fig = plt.figure(figsize =(10, 7))

plt.pie(data, labels = subject)

plt.show()
```

----------slip No 26----------

.1)Consider the following entities and their relationship. [15]

Doctor (doc_no, dname, address ,city ,area)

Hospital (hosp_no, hname, hcity)

Doctor-Hospital related with many-one relationship.

Create a RDB in 3NF for above and solve the following.

Using above database write a script in PHP to print the Doctor visiting to the Hospital in tabular

format. Accept Hospital name from user.

----------Code----------

```
<html>
<body bgcolor="red">
<form method="post" action="slip26.php">
Enter hospital name<input type="text" name="t1">
<br><input type="submit">
</form>
</body>
</html>
<?php
$hname=$_POST['t1'];
$con=pg_connect("dbname=college user=postgres");
$q="select dname,dcity from doctor,hospital where
doctor.hno=hospital.hno and hospital.hname='$hname'";
$rs=pg_query($q) or die("error");
echo "Hospital Name:$hname<br>";
echo "<table border=1>";
echo "<tr><th>Doctor Name</th><th>Doctor city</th></tr>";
while($row=pg_fetch_row($rs))
{
echo "<tr><td>$row[0]</td><td>$row[1]</td></tr>";
// echo "min=$row[0] <br>";
//echo "max=$row[1] <br>";
```

```
//echo "sum=$row[2] <br>";
}
?>
```

.2 A) Generate a random array of 50 integers and display them using a line chart, scatter plot,

histogram and box plot. Apply appropriate color, labels and styling options.
[10]

----------Code----------

```
import pandas as pd
import numpy as np
import matplotlib.pyplot as plt
x=np.random.randint(low = 1,high=100,size=50)
y=np.random.randint(low = 1,high=100,size=50)
print(x)
print(y)
plt.scatter(x,y)
plt.show()
```

---

2. B) Create two lists, one representing subject names and the other representing marks obtained in

those subjects. Display the data in bar chart.
[5]

----------Code----------

```
from matplotlib import pyplot as plt

import numpy as np

subject = ['OS', 'FDS', 'JAVA','PHP', 'BlockChain', 'python']

data = [23, 17, 35, 29, 12, 41]

fig = plt.figure(figsize =(10, 7))

plt.pie(data, labels = subject)

plt.show()
```

----------slip No 28----------

Q.1) Write a program to read a flat file "student.dat", calculate the percentage and display the

data from file in tabular format.(Student.dat file contains rollno, name, OS, WT, DS, Python,

Java, CN)

----------Code----------

Slip No 28 solution code slip28.php

```
<html><body>

<form method=post action="slip28.php">

<b><h1>----------STUDENT DETAILS----------</h1></b><br>

Enter File name:<input type=text name="str1"/><br>

<input type=submit name="SUBMIT">
```

```
<input type=reset name="RESET"><br>




</form>

</body>

</html>


<?php

$file1=$_POST['str1'];


$data=file($file1);


$name=$data[0];

$age=$data[1];

$std=$data[2];

$eid=$data[3];

$m1=$data[4];

$m2=$data[4];

$m3=$data[4];

$m4=$data[4];

$m5=$data[4];
```

```
$m6=$data[4];

$total=$m1+$m2+$m3+$m4+$m5+$m6;

$per=$total/6;



$arr=array("Name:"=>$name,"Age:"=>$age,"Course"=>$std,"Email_id"=>$e
id,"Total"=>$total,"Percentage"=>$per);

echo '<table border="1" >';

foreach($arr as $k=>$v)

{

Echo'<tr><td>'.$k.'</td><td>'.$v.'</td></tr>';



}

?>
```

Slip28stud.data

```
sandeep HETRAM AMBULE

20

Bsc(comp.sci)

sandyambule@gmail.com

80

88

90
```

78

82

79

.2) Write a Python program
[15]

1. To create a dataframe containing columns name, age and percentage. Add 10 rows to the

dataframe. View the dataframe.

----------code----------

```
import pandas as pd

header=("name","per","age")

data={('swapnil',87,24),('shital',92,24)}

#make 10

df=pd.DataFrame(data=data,columns=header)

m1=df[‘per’].mean()
```

---

2. To print the shape, number of rows-columns, data types, feature names and the description of

the data.

3. To view basic statistical details of the data.

4. To Add 5 rows with duplicate values and missing values. Add a column ‘remarks’ with empty

values. Display the data.

----------Code----------

```
import pandas as pd
header=("name","salary","dept")
data={('swapnil',20000,'computer'),('shital',30000,'commerce')}
#make 10 entries with duplicate and null
df=pd.DataFrame(data=data,columns=header)
print(df)
```

----------slip No 30----------

Q.1) Consider the following entities and their relationships [15]

Student (Stud_id,name,class)

Competition (c_no,c_name,type)

Relationship between student and competition is many-many with attribute rank and year. Create

a RDB in 3NF for the above and solve the following. Using above database write a script in PHP

to accept a competition name from user and display information of student who has secured 1st

rank in that competition.

----------Code----------

```
<html>
<body bgcolor="pink">
<form method="post" action="slip30.php">
```

```
Enter compitition name<input type="text" name="t1">
<br><input type="submit" value="submit">
</form>
</body>
</html>
```

slip No 30) solution php code

```
<?php
$cname=$_POST['t1'];
echo"Cname".$cname;
$con=pg_connect("dbname=college user=postgres");
echo "Connected to database";
$q="select sname,class from student1,comp,s_c where student1.sid=s_c.sid
and s_c.cno=comp.cno and comp.cname='$cname'and rank=1";
$rs=pg_query($q) or die("error");
echo "Compitition Name:$cname<br>";
echo "<table border=1>";
echo "<tr><th>Student Name</th><th>class</th></tr>";
while($row=pg_fetch_row($rs))
{
echo "<tr><td>$row[0]</td><td>$row[1]</td></tr>";
```

```
}
?>
```

.2) Write python program to
[15]

a. Generate a random array of 50 integers and display them using a line chart, scatter plot,

histogram and box plot. Apply appropriate color, labels and styling options.

----------code----------

```
import pandas as pd
import numpy as np
import matplotlib.pyplot as plt
x=np.random.randint(low = 1,high=100,size=50)
y=np.random.randint(low = 1,high=100,size=50)
print(x)
print(y)
plt.scatter(x,y)
plt.show()
```

---

b. Create two lists, one representing subject names and the other representing marks obtained in

those subjects. Display the data in bar chart.

----------**Code**----------

```
from matplotlib import pyplot as plt

import numpy as np

subject = ['OS', 'FDS', 'JAVA','PHP', 'BlockChain', 'python']

data = [23, 17, 35, 29, 12, 41]

fig = plt.figure(figsize =(10, 7))

plt.pie(data, labels = subject)

plt.show()
```