



BK BIRLA CENTRE FOR EDUCATION

SARALA BIRLA GROUP OF SCHOOLS
SENIOR SECONDARY CO-ED DAY CUM BOYS' RESIDENTIAL SCHOOL



PRE MID-TERM EXAMINATION (2024-25) SUB: INFORMATICS PRACTICES (065)

Class : XII SCIENCE / COMMERCE / HUMANITIES

Date : 03-08-2024

MARKING SCHEME

Duration : 1 Hr

Max. Marks: 25

Section-A (1 to 6)

- How can you drop a column from a DataFrame? 1
a) **df.drop('column_name', axis=1)** b) df.delete('column_name', axis=1)
b) df.remove('column_name', axis=1) d) df.drop_column('column_name')
- The function to_csv used for converting a DataFrame to a CSV File is found in ____ 1
a) **Pandas Module** b) CSV Module c) Python Module d) None of these
- The command used to give a heading to a graph is _____. 1
a) plt.show() b) plt.plot() c) plt.xlabel() **d)plt.title()**
- Which of the following functions returns the position of a substring in a given string ? 1
a) mid() **b) instr()** c) substr() d) char()

ASSERTION & REASONS

- Direction: In the questions given below, there are two statements marked as **Assertion (A)** and **Reason (R)**. Choose the correct option out of the choices given below in each question: 1
Assertion (A): Data Integrity means that data is accurate and consistent in the database.
Reason (R): Data integrity also ensures that your data is safe from any outside forces.
a) Both (A) and (R) are correct and (R) is correct explanation of (A).
b) Both (A) and (R) are correct and (R) is not the correct explanation of (A).
c) (A) is True but (R) is False. d) (A) is False but (R) is True.

Ans: a)

- Assertion (A): There can be multiple primary key in a table. 1
Reason (R): Duplicate values cannot be entered in primary key.
a) Both (A) and (R) are correct and (R) is correct explanation of (A).
b) Both (A) and (R) are correct and (R) is not the correct explanation of (A).
c) (A) is True but (R) is False. d) (A) is False but (R) is True.

Ans: c)

Section-B (7 to 14)

- Define DataFrame. Write at-least two main characteristics of it. (**related to Python**) 2

Ans: A DataFrame is a two-dimensional labelled data structure that is similar to a spreadsheet. It has two indexes i.e. two axis- a row index (axis = 0) and a column index (axis=1). The row index is known as index and the column index is called column-name. The indexes can be of numbers, letters or strings. It is value mutable as well as size mutable (rows /columns can be deleted/added/modified)

8. Write a Python code to create a DataFrame (DF1) of the given output using dictionary. 2

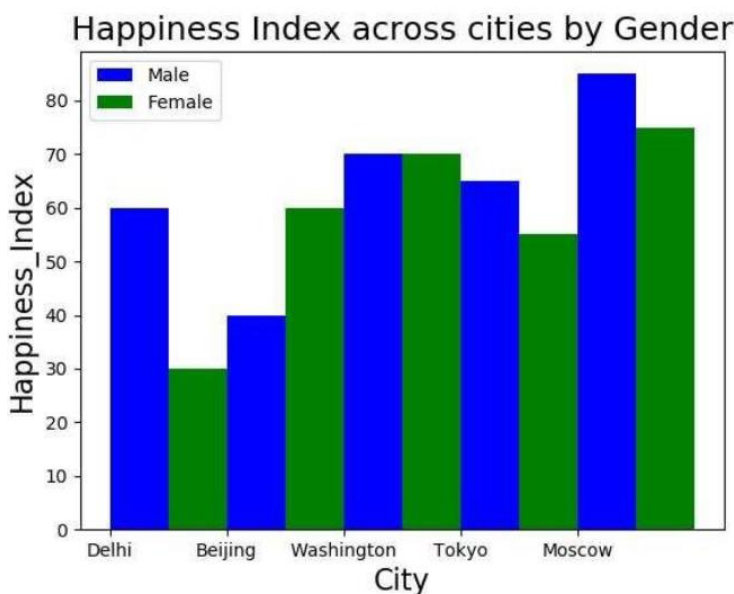
	one	two	three
r1	11	21	31
r2	12	22	32
r3	13	23	33
r4	14	24	34

Ans:

```
import pandas as pd
s1=pd.Series([11,12,13,14],index=['r1','r2','r3','r4'])
s2=pd.Series([21,22,23,24],index=['r1','r2','r3','r4'])
s3=pd.Series([31,32,33,34],index=['r1','r2','r3','r4'])
di1={"one":s1,"two":s2,"three":s3}
df2=pd.DataFrame(di1,index=['r1','r2','r3','r4'])
print(df2)
```

9. Gaurav has following data and he wants to create a bar graph. Help him to write a code to draw a bar graph of the given type : 2

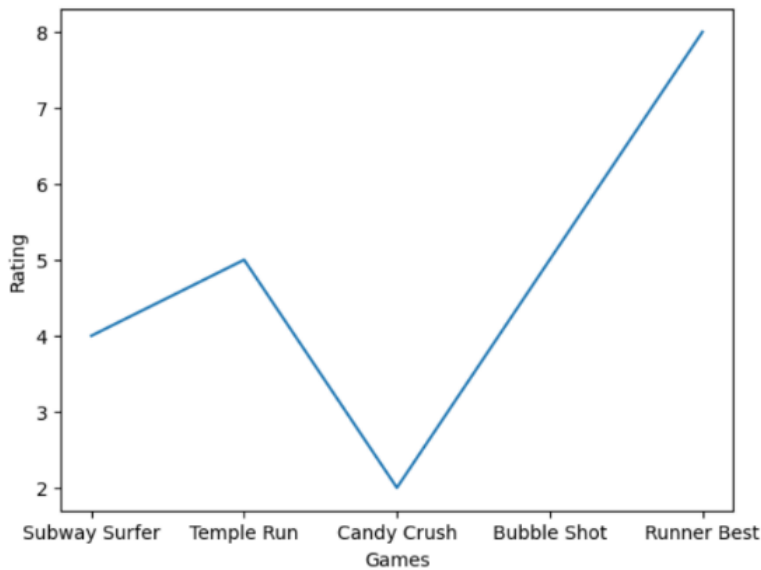
City	Happiness_Index Male	Happiness_Index Female
Delhi	60	30
Beijing	40	60
Washington	70	70
Tokyo	65	55
Moscow	85	75



Note: There are two bar graphs. Give label in both axis and also legends

Ans: `import pandas as pd`
`import matplotlib.pyplot as plt`
`City=['Delhi','Beijing','Washington','Tokyo','Moscow']`
`Gender=['Male','Female']`
`Happiness_Index_Male=[60,40,70,65,85]`
`Happiness_Index_Female=[30,60,70,55,75]`
`plt.bar([0.25,1.25,2.25,3.25,4.25],Happiness_Index_Male,color='blue',label="Male",width=.5)`
`plt.bar([.75,1.75,2.75,3.75,4.75],Happiness_Index_Female,color='Green',width=.5,label="Female")`
`pos=range(len(City))`
`print(pos)`
`plt.xticks(pos,City,fontsize=10)`
`plt.xlabel('City', fontsize=16)`
`plt.ylabel('Happiness_Index', fontsize=16)`
`plt.show()`

10. Write a python code to draw a graph of given type. You need to find out values for x-axis and y-axis and also put labels. 2



11. You have a CSV file with data about students. The file has the following columns: (Datafile name is "student.csv")
 Name, age, gender, grade
 Write a Python program to import the data from the CSV file into a DataFrame. 2

Ans: `import pandas as pd`
`df = pd.read_csv('students.csv')`
`print(df)`

12. Consider the following table '**Transporter**' that stores the order details about items to be transported. Write SQL query for the given statements. (Any two) 2

Table : TRANSPORTER

ORDERNO	DRIVERNAME	DGRD	ITEM	TRAVELDATE	DESTINATION
10012	RAM YADAV	A	TELEVISION	2019-04-19	MUMBAI
10014	SOMNATH SINGH		FURNITURE	2019-01-12	PUNE
10016	MOHAN VERMA	B	WASHING MACHINE	2019-06-06	LUCKNOW
10018	RISHI SINGH	A	REFRIGERATOR	2019-04-07	MUMBAI
10019	RADHE MOHAN		TELEVISION	2019-05-30	UDAIPUR
10020	BISHEN PRATAP	B	REFRIGERATOR	2019-05-02	MUMBAI
10021	RAM		TELEVISION	2019-05-03	PUNE

- (i) To display names of drivers and destination city where TELEVISION is being transported.
- (ii) To display driver names and destinations where destination is not MUMBAI.
- (iii) To display the names of destination cities where items are being transported. There should be no duplicate values.

Ans: i) Select drivername, destination from transporter where item='Television';
ii) Select drivername, destination from transporter where destination not in ('Mumbai');
or
SELECT drivername, destination from transporter WHERE Destination != 'Mumbai';
iii) Select distinct(destination) from transporter;

13. Find the output of the following SQL statements. 2

- a) SELECT RIGHT('MALAYALAM', 4);
- b) SELECT SUBSTR('APPROXIMATELY',8, 5);

Ans: a) ALAM b) MATEL

14. What is MySQL function ? List different types with examples. 2

Ans: It is a built-in operation that can be used to perform calculations, manipulate data, or retrieve specific information.

Functions in MySQL can be categorized into several types based on their functionality:

- 1) Single row function
- 2) Multiple row function

Single row function is further divided into following types:

- i) String Functions : substr()
- ii) Date and Time Functions : date(), month()
- iii) Numeric Functions: round(), floor(), abs()

Section-C (Q.No.15)

15. A Gift Gallery has different stores in India. Database Administrator Abhay wants to maintain database of their Salesmen in SQL to store the data, He has decided that 3

Name of the database: GiftGallery

Name of the table: Salesman

Fields	Datatype	Size	Constraint
Scode	Numeric	5	Primary Key
Sname	Character	25	Not Null
Address	Character	25	Null
Dojoin	Date		
Sales	Numeric		
Area	Character	10	

Ans: CREATE TABLE Salesperson (
 Scode NUMERIC(5) PRIMARY KEY,
 Sname CHAR(25) NOT NULL,
 Address CHAR(25),
 Dojoin DATE,
 Sales NUMERIC,
 Area CHAR(10));

***** ALL THE BEST!!! *****