JAIPURIA INSTITUTE OF MANAGEMENT
LUCKNOW NOIDA JAIPUR INDORE

JAIPURIA INSTITUTE OF MANAGEMENT, NOIDA

PGDM / PGDM (M) / PGDM (SM)

FOURTH TRIMESTER (Batch 2020-22)

END TERM EXAMINATIONS, OCTOBER, 2021, SET - I

Course Name	Programming for Business Analytics (PBA)	Course Code	BA-402
Max. Time	**2 hours**	Max. Marks	**40 MM**

INSTRUCTIONS:

a. Students are required to work on their own personal Laptop. This is an open book exam
b. Attempt all the questions on a single Jupyter Notebook
c. The data for the case is available on Moodle.
d. Write down your Roll no., course name and code on top of Jupyter Notebook
e. Save your Jupyter notebook with .ipynb extension and as pdf file
f. Upload both the files on Moodle.
g. Label the files as PBA_roll no.

Q 1: Set and Dictionary are two data types that exist in Python. Create small data relevant to business to illustrate their applications? **(10 Marks)**

Q 2: Read the following case

Case: Pretty You Stores

Pretty You Stores, a division of National Clothing, is a chain of females' clothing stores operating throughout the country. The chain recently ran a promotion in which discount coupons were sent to customers of other National Clothing Stores. Data collected for a sample of 100 in-store credit card transactions at Pretty You stores during one day while the promotion was running are contained in the file named PrettyStores. Table 1 shows a portion of the data set. The Proprietary Card method of payment refers to charges made using a National Clothing charge card. Customers who made a purchase using a discount coupon are referred to as promotional customers and customers who made a purchase but did not use a discount coupon are referred to as regular customers. Because the promotional coupons were not sent to regular Pretty You Stores customers, management considers the sales made to people presenting the promotional coupons as sales it would not otherwise make. Of course, Pretty You also hopes that the promotional customers will continue to shop at its stores.

Table 1 Store data

Customer	Type of Customer	Items	Net Sales	Method of Payment	Gender	Marital Status	Age
1	Regular	1	595	Discover	Male	Married	32
2	Promotional	1	1224	Proprietary Card	Female	Married	36
3	Regular	1	425	Proprietary Card	Female	Married	32
4	Promotional	5	1204	Proprietary Card	Female	Married	28
5	Regular	2	740	MasterCard	Female	Married	34
6	Regular	1	645	MasterCard	Female	Married	44
7	Promotional	2	980	Proprietary Card	Female	Married	30
8	Regular	1	425	Visa	Female	Married	40
9	Promotional	2	765.2	Proprietary Card	Female	Married	46
10	Regular	1	645	Proprietary Card	Female	Married	36
11	Regular	1	495	Proprietary Card	Female	Married	48
12	Promotional	1	516	Proprietary Card	Female	Married	40
13	Promotional	9	1804	Visa	Female	Married	40

Most of the variables shown in Table 1 are self-explanatory, but two of the variables require some clarifications.

Items	The total number of items purchased
Net Sales	The total amount (in Rs.) charged to the credit card

Pretty You's Management would like to use this sample data to learn about its customer base and to evaluate the promotion involving discount coupons.

Pretty You has hired you as a Data Scientist. You are required to create a managerial report by analyzing the data by employing descriptive analytics techniques to help management develop a customer profile and to evaluate the promotional campaign. **(30 Marks)**

Note: You are required to illustrate every output with the interpretation mentioned as comments on the Jupyter notebook. Distribution of marks will be based on the coverage of data analysis performed.