Sub: Computer Applications   **Class: 10**

User Defined Methods
Revision Worksheet-1

Question I

Write a class to overload a method **print()** as follows:

void print() – to print the format

```
1
2   3
4   5   6
7   8   9   10
11  12  13  14  15
```

boolean print(int nun): To check whether num is a Dudeney number or not.
(**A number is Dudeney if the cube of the sum of the digits is equal to the number itself.**)
Ex: 512 →   (5+1+2)³ → (8)³=512

Write a main() to demonstrate function call after necessary input

Question II

Ecommerce businesses have increasingly adopted 5-star surveys as the most popular type of customer survey, and use the 5-star survey ratings as a key performance indicator. It is a customer feedback questionnaire that uses a 5-point rating scale to assess satisfaction with a product or service. The concept is simple: customers are asked to rate a product, service, or experience on a scale of 1 to 5 stars. This is the most popular method to derive star ratings. Here, the arithmetic average of all the ratings is calculated. Usually, the ratings are semi-aggregated: for each product/Service, we need to check how many users gave it 1 star, 2 stars, and so on up to the highest ranking (most often, 5 stars). For example:

Star Value	Review Count
1	50
2	50
3	100
4	400
5	500

Then, the average star rating can be calculated as follows:

$$\frac{1*50+2*50+3*100+4*400+5*500}{50+50+100+400+500} = \frac{4550}{1100} = 4.14$$

Write a program to define a class **My_Rating** with the following description: [15]

Instance variables/data member:

```
String P_Name      - to store the name of the Product.
int Star1, Star2, Star3, Star4, Star5 - to store no. of 1 Stars, 2 Stars,
                                     3 Stars, 4 Stars and 5 Stars.
float Average_Rating - to store the average star ratings/mean value.
```

Member methods/functions:

My_Rating() - parameterized constructor to input and store the details of the product and stars.

void Find_Rating() – Calculate average star rating as given above and display the product name, Average rating and quality as per the following criteria:

Average Stars	Quality
4.20 – 5.00	Exceptional
3.40-4.19	Excellent
2.60-3.39	Very Good
1.80-2.59	Good
1.00-1.79	Fair

Write a program with **main()** method and call the above methods by creating an object.

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