**Assignment 3 excel**

**1Ans**: **Relative referencing**

By default, all cell references are relative references. When copied across multiple cells, they change based on the relative position of rows and columns. For example, if you copy the formula =A1+B1 from row 1 to row 2, the formula will become =A2+B2. Relative references are especially convenient whenever you need to repeat the same calculation across multiple rows or columns.

**Absolute referencing**

There may be times when you do not want a cell reference to change when copying or filling cells. You can use an absolute reference to keep a row and/or column constant in the formula

An absolute reference is designated in the formula by the addition of a dollar sign ($). It can precede the column reference, the row reference, or both.

**2Ans:** Excel workbook can be protected by following the below instructions

1. Select **File** > **Info**.
2. Select the **Protect Workbook**box and choose **Encrypt with Password.**
3. Enter a password in the **Password**box, and then select **OK**.
4. Confirm the password in the **Reenter Password**box, and then select **OK**.

**3Ans:** A Pivot table is one of the basic data analysis tools. Pivot Tables can quickly answer many important business questions.

One of the reasons we build Pivot Tables is to pass information. We would like to support our story with data that is easy to understand, easy to see.

Although Pivot Tables are only tables and thus missing real visuals, they can still be considered as a mean of visual storytelling.

Pivot table can be created by following certain instructions. The instructions are as follows.

1. Select the cells you want to create a PivotTable from.
2. Select **Insert** > **PivotTable**
3. This will create a PivotTable based on an existing table or range.
4. Choose where you want the PivotTable report to be placed. Select **New Worksheet** to place the PivotTable in a new worksheet or **Existing Worksheet** and select where you want the new PivotTable to appear
5. Click OK

**4Ans:** The Excel LOOKUP function performs an approximate match lookup in a one-column or one-row range, and returns the corresponding value from another one-column or one-row range. LOOKUP's default behavior makes it useful for solving certain problems in Excel

VLOOKUP and HLOOKUP are the 2 main types of LOOKUP functions that are available in excel.

**VLOOKUP**

Use VLOOKUP when you need to find things in a table or a range by row. For example, look up a price of an automotive part by the part number, or find an employee name based on their employee ID.

In its simplest form, the VLOOKUP function says:

=VLOOKUP(What you want to look up, where you want to look for it, the column number in the range containing the value to return, return an Approximate or Exact match – indicated as 1/TRUE, or 0/FALSE).

**HLOOKUP**

Searches for a value in the top row of a table or an array of values, and then returns a value in the same column from a row you specify in the table or array. Use HLOOKUP when your comparison values are located in a row across the top of a table of data, and you want to look down a specified number of rows. Use VLOOKUP when your comparison values are located in a column to the left of the data you want to find.

The H in HLOOKUP stands for "Horizontal."

**5Ans:** Excel data validation is a feature that allows you to control the type of data entered into your worksheet. For example, Excel data validation allows you to limit data entries to a selection from a dropdown list and to restrict certain data entries, such as dates or numbers outside of a predetermined range. Data validation can also help you control formulas and the input from those formulas. You can even craft custom Excel data validation messages that help guide users toward the right data entry when they hit a limit. As a result, Excel data validation helps reduce the amount of unstandardized data, errors, or irrelevant information in your worksheet.

It’s a helpful feature, especially when widely sharing an Excel worksheet with others for completion. Many data analysts find data validation in Excel to be beneficial when they are working with many users or with strict guidelines in data entry. In addition, data validation in Excel can help save analysts valuable resources that are spent when the data isn’t input correctly. Overall, data validation in Excel is a beneficial feature, but even beneficial features have limitations that can impede its ability to help users.

The following is the procedure to handle data validation

1. Select the cell(s) you want to create a rule for.
2. Select **Data >Data Validation**.
3. On the **Settings** tab, under **Allow**, select an option:
   1. **Whole Number** - to restrict the cell to accept only whole numbers.
   2. **Decimal** - to restrict the cell to accept only decimal numbers.
   3. **List** - to pick data from the drop-down list.
   4. **Date** - to restrict the cell to accept only date.
   5. **Time** - to restrict the cell to accept only time.
   6. **Text Length** - to restrict the length of the text.
   7. **Custom** – for custom formula.
4. Under **Data**, select a condition.
5. Set the other required values based on what you chose for **Allow** and **Data**.
6. Select the **Input Message** tab and customize a message users will see when entering data.
7. Select the **Show input message when cell is selected** checkbox to display the message when the user selects or hovers over the selected cell(s).
8. Select the **Error Alert** tab to customize the error message and to choose a **Style**.
9. Select **OK**.