1.Illustrate various options available in working with formula.

- When working with formulas in spreadsheet software like Microsoft Excel, there are various options and features available to enhance functionality and efficiency. Here are some common options:

1. **Cell References:**

- Use relative, absolute, or mixed cell references to control how formulas adjust when copied to other cells.

```excel
=A1 + B$2 * C3
```

2. **Named Ranges:**

- Define names for specific ranges of cells to make formulas more readable and easier to manage.

```excel
=SUM(Revenue)
```

3. **Functions:**

- Utilize a wide range of functions for mathematical, statistical, logical, and other operations.

```excel
=IF(A1 > 100, “Above Threshold”, “Below Threshold”)
```

4. **AutoFill:**

- Quickly copy formulas to adjacent cells using the AutoFill handle.
  ![AutoFill](https://support.microsoft.com/library/images/support/kbgraphics/public/en-us/outlook2010/ha102792598.png)

5. **Formula Auditing:**

- Use tools like Trace Precedents and Trace Dependents to understand and visualize relationships between cells.

![Formula Auditing](https://support.microsoft.com/library/images/support/kbgraphics/public/en-us/office2010/a3d793f3-194e-4f7d-a427-1db4d04e06b2.png)

6. **Data Validation:**

- Apply data validation to control the type of data entered into a cell, ensuring accuracy in calculations.

![Data Validation](https://support.microsoft.com/library/images/support/kbgraphics/public/en-us/excel2010/9950B284-3495-49FE-B228-6FD8E05A02F3.png)

7. **Array Formulas:**

- Perform calculations on arrays of data using special array formulas.

```excel
=SUM(A1:A10 * B1:B10)
```

8. **Conditional Formatting:**

- Apply formatting rules based on the values in cells, making it easier to identify trends or outliers.

![Conditional Formatting](https://support.microsoft.com/library/images/support/kbgraphics/public/en-us/outlook2010/ha102808632.png)

9. **Error Checking:**

- Use built-in error checking tools to identify and correct errors in formulas.

![Error Checking](https://support.microsoft.com/library/images/support/kbgraphics/public/en-us/outlook2010/ha102792599.png)

10. **Solver:**

- Optimize formulas using Solver for complex what-if analysis and goal-seeking scenarios.

![Solver](https://support.microsoft.com/library/images/support/kbgraphics/public/en-us/excel2010/61c91612-4f9d-4fa7-97f0-d26bd3ff13b5.png)

11. **PivotTables:**

- Analyze and summarize data using PivotTables, which allow for dynamic rearrangement of data.
  ![PivotTable](https://support.microsoft.com/library/images/support/kbgraphics/public/en-us/excel2010/1a293c69-7db9-4ae9-aab7-296b622eeb94.png
  -

12. **Custom Functions (VBA):**

- Create custom functions using Visual Basic for Applications (VBA) to extend Excel's capabilities.

```excel
=MyCustomFunction(A1)
```

  - These options provide flexibility and power when working with formulas in spreadsheet applications, enabling users to handle diverse calculations and analyses efficiently.

2.Apply various formule editing options available for the above data.

- Certainly! Assuming you have a dataset similar to the one you provided earlier, let's explore various formula editing options using Microsoft Excel. We'll use a few common scenarios for illustration:

1. **Basic Formulas:**

- Use basic arithmetic operations to calculate age based on the date of birth.

```excel
=YEAR(TODAY()) – YEAR(C3)
```

2. **IF Function:**

- Categorize individuals into age groups using the `IF` function.

```excel
=IF(D3 < 30, “Young”, IF(D3 < 60, “Mature”, “Senior”))
```

3. **SUM Function:**

- Calculate the total age of all individuals.

```excel
=SUM(D2:D12)
```

4. **AVERAGE Function:**

- Find the average age of the individuals.

```excel
=AVERAGE(D2:D12)
```

5. **CONCATENATE Function:**

- Create a full name by combining the first and last names.

```excel
=CONCATENATE(A2, “ “, B2)
```

6. **VLOOKUP Function:**

- Look up the segment for a specific person using their name.

```excel
=VLOOKUP("Sandy", A2:E12, 5, FALSE)
```

7. **COUNTIF Function:**

- Count the number of individuals in the "Mature" segment.

```excel
=COUNTIF(E2:E12, "Mature")
```

8. **INDEX and MATCH Functions:**

- Retrieve the date of birth for a specific person using their name.

```excel
=INDEX(C2:C12, MATCH("Evelyn", A2:A12, 0))
```

9. **Array Formulas:**

- Calculate the product of age and 2 for each individual using an array formula.

```excel
=D2:D12 * 2
```

10. **Text Functions:**

- Extract the year of birth from the date of birth.

```excel
=YEAR(C2:C12)
```

11. **PivotTable:**

- Create a PivotTable to analyze the data by age segment.

![PivotTable](https://support.microsoft.com/library/images/support/kbgraphics/public/en-us/excel2010/1a293c69-7db9-4ae9-aab7-296b622eeb94.png)

12. **Goal Seek:**

- Use Goal Seek to determine the birth year for a specific age.
- Go to `Data` > `What-If Analysis` > `Goal Seek`.

- These examples showcase various formula editing options in Excel, including basic formulas, logical functions, statistical functions, lookup functions, text functions, and more. Excel provides a wide range of tools to handle diverse calculations and data manipulations efficiently.