**PROJECT SYNOPSIS**

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*Idea 1*

**AIM:**

To explore various areas of Chemistry and understand them better with Python and MySQL

**PROCEDURE:**

Our project is aiming to do the following :

1. **2D & 3D Structures**:

* Geometry & shape visualization of various organic compounds and crystals with libraries like PyMOL
* Visualizing the shapes of various atomic orbitals
* Bond parameters like bond length and bond angle

1. **Atomic structure**:

We will be taking the Atomic Number of an element as input from the user and then will be :

* Printing its Electronic Configuration which would be stored in MySQL database for all elements
* Specifying its position in the Periodic table (Group, Period and Block)
* Calculating Energies and Radius in its various shells with the help of various formulae

1. **Chemical Reactions & Equations**:

* We will be printing various chemical reactions related to Chemistry Practical based on certain inputs from the user.

**BENEFITS OF OUR PROJECT:**

Chemistry is part of day to day life but its concepts are not so easy to understand. Hence with the help of our project the user will be able to learn new concepts of chemistry in an interactive way rather than reading from the book. Thereby making the process of learning more visual based and interesting.

**LIBRARIES USED:**

1. Matplotlib
2. Atomic Simulation Environment (ASE)
3. Rdkit
4. PyMol
5. Tkinter
6. Mysql.connector
7. Math

*Idea 2*

**Aim:** To make the text you send encrypted

**Need:** To stop people from data mining your data

**Solution:**

To ask User To encrypt it or decode the text which will be by input or speech to text

**If encrypt**

To ask User in what way does it require it to encrypt in like base64, Caesar Cipher, Morse code or Blowfish.

**If decode**

We’ll ask the user to input which language it belongs to and give the text by print and by text to speech

User then will have an option to send the encrypted text on whatsapp by webwhatsapp by scanning the code then in python input name of person or group.

**Library used:**

1. Webbrowser
2. Selenium
3. mysql.connector
4. Speech recognition
5. pyttsx3
6. Tkinter

**Conclusion:**

Data is a valuable asset and we need protection and make your important text encrypted and share safely