MASTERING PYTHON: FROM BASICS TO ADVANCED

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Class: MCA Sec 'A'

Topic: CUSTOM MODULE PROJECT

1. **Name of Project:-**
   Simple Calculator Module
2. **Work of Project:-**
   - **Functions:** The project includes four functions(add, subtract, multiply, divide) that take two numeric inputs and return the of the respective operation.
   - **User Interaction:** It prompts users to select an operation and input two numbers. Based on the user's choice, it performs the corresponding calculation and displays the result.
   - **Loop and Validation:** The while loop ensures that the program repeatedly asks for user input a valid choice is made.
3. **Future Uses of Project:-**
   - **Education Tool:** A great starting point for beginners learning Python and basic programming concepts.
   - **Integration:** It can be integrated into larger software projects that require basic arithmetic functionality.
   - **Template:** It serves as a template for developing more advanced calculators, such as those used in scientific or financial applications.
4. **Possible Developments:-**
   - **Additional Operations:** Introduce more complex mathematical functions, such as exponentiation, square roots, logarithms, and trigonometric functions.
   - **Graphical User Interface(GUI):** Implement a GUI using libraries like Thinter, PyQt, or Kivy to make the calculator more user-friendly and visually appealing.
   - **Error Handling:** Add robust error handling to manage invalid inputs, such as non-numeric entries or division by zero.
   - **Memory Functions:** Add features to store and recall previous calculations, similar to advanced calculators.
   - **Modularization:** Break down the code into more modular components, making it easier to maintain and expand.
   - **Unit Testing:** Write unit tests to ensure the accuracy and reliability of each function, which is especially useful for more complex calculations.