**Python Program Report**

This report explains the Python program developed to demonstrate basic Python concepts, including variable usage, expressions, conditional execution, error handling, class design, and iteration techniques. The program was built in three main parts:

1)A basic program prompting user input for their name and age, and calculating their year of birth.

2)Extension of the program to include conditionals and handling of the user’s favorite number.

3)Creation of a Book class, along with sorting and searching functionality, showcasing functions and iteration techniques.

**Class Design**

The program includes the design of a book class. This class models a book with three attributes namely book, author and the title.

The class has one method, description() which returns a formatted string that describes the book as: “Title by Author, published in Year”.

**Function Usage**

Sorting Function: A custom function was developed to sort a list of Book objects based on their publication year.

**Iteration Techniques**

For Loop: A for loop was used to iterate through the sorted list of Book objects. This loop retrieves each book and prints its title, author, and year of publication.

While Loop: A while loop was also demonstrated to iterate through the same list of Book objects.

Advanced Looping for Search: This search functionality employs a loop with a condition that checks for the exit keyword to terminate, showcasing the use of loops with user interaction.

Error Handling: This was integrated into the program at multiple points, particularly when receiving user input hence it ensures the program doesn’t crash due to unexpected input and improves user experience.