1. Introduction

2. The Procedural Paradigm is a programming paradigm that focuses on a sequence of procedures or functions that operate on data. Its purpose is to break down a problem into smaller, more manageable sub-problems, and solve them one by one. The POP basically consists of writing a list of instructions for the computer to follow and organizing these instructions into groups known as functions. Number of functions are written to accomplish these tasks. The main focus is on the functions.

3. Here you can see the structure of procedure oriented programs.

4. In procedural programming, the program's execution flow follows the order of the functions or procedures, which are called one after another. So flowchart is used to organize the actions and in procedural programming you concentrate on the development of the functions. But do we need to concentrate on what happens to data? How is the data affected?

5. In the multi-function program many important data items are placed as global so that they may be accessed by all the functions. Each function has its own local data also.

6. Here you can see the relationship of the data and functions in procedural programming.

7. Global data is more vulnerable, but in large program it's very difficult to identify what data is used by which function, so that's because it's used. Also POP does not model real world problems very well, because functions are action oriented. POP is used in several fields, including:

(a) Embedded Systems - writing codes for small, resource-constrained(с ограниченными ресурсами) devices

(b) Scientific Computing - writing high-performance code for simulations and data analysis.

(c) System Programming - writing operation systems, device drivers, and other low-level system software.

8. Characteristics of POP

(a) Emphasis on doing things(algorithms).

(b) Large program. Divided into smaller programs known as functions.

(c) Most functions share global data.

(d) Data move openly around system from function to function.

(e) Employs top down approach in program design

9. Disadvantages of POP

(a) Unrestricted access.

(b) Data is exposed to whole program. so there is no security for data.

(c) Difficult to relate with real world objects.

(d) Importance is given to the operations on data rather than the data.

(e) Complexity is increased when program becomes large.

(f) A change in global data may necessitate rewriting all the functions that access that item.

(g) Procedural programs don't emphasize on what to do to solve the problem.

(h) Procedural programs are difficult to modify.

10. Advantages of POP

    (a) Efficiency - procedural programs can be fast and use a few memory.

    (b) Simplicity - procedural programs are often easy to understand and maintain.

    (c) Ease of Implementation - procedural languages are generally easier to learn and use than, for example, object-oriented languages.

11. Conclusion. To conclude, the Procedural Paradigm is a programming approach that focuses on procedures or functions that operate on data. The future prospects of the Procedural Paradigm include continued use in fields where performance and efficiency are critical, but also possible integration with object-oriented and other programming paradigms to create hybrid approaches that combine the best of both worlds.