FORTRAN

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Outline

INTRODUCTION

- Fortran was first created by a team of IBM researchers led by John Backus in 1957.
- **FORTRAN – FORMula TRANsalator.**
- Fortran is an imperative programming language.

EXAMPLE

Example for a simple **"Hello World"** program.

Hello World program

```
program hello
implicit none
write(*,*) 'Hello world!'
end program hello
```

EXPLAINING THE SYNTAX

- Any Fortran program has to end with “end” as the last statement.
- It is common to use the “program” statement to start a program and give it a name.
- In the above program, “hello” is used as the name.
- The compiler checks the code for correctness.
- All Fortran programs should include an “implicit none” statement.
- “Implicit none” statement is used in Fortran so that there will be no need of declaring the variables before the use of variables.

INFLUENCED AND INFLUENCES

- Fortran gave users the first accessible high-level language and enabled computers to optimize commands 20 times more efficiently.
- During its initial time, it was mostly used for scientific and engineering applications.
- It had influences on other programming languages like python and C, For example - the concept of the array was first introduced in Fortran, and later it was used in many programming languages.

REAL TIME APPLICATIONS

- Fortran is still a dominant language for the large-scale simulation of physical systems like

Astrophysical modeling of stars and galaxies
Hydrodynamics codes [The fundamental principle of Hydrodynamic codes is to solve the Euler or Navier-Stokes equations]
Large-scale molecular dynamics.
Electronic structure calculation codes.
Large-scale climate models.

- It is also used to design

Bridges
Airplane structures

REFERENCES

https://en.wikipedia.org/wiki/Fortran
https://chat.openai.com/