

Note that there are several types of Pascal languages

Pascal Languages: History, Variants and Evolutions

Since its creation in the 1970s, the Pascal language has spanned several decades, evolving to meet the needs of education, professional development, and modern applications. Let's explore its main variants and their uses.

1 Original Pascal (Standard Pascal)

Creator: Niklaus Wirth, 1970

Objective: Teaching structured programming and developing reliable software.

Standard: ISO 7185 Pascal

Characteristics: strong and strict typing, conditional structures and classic loops, procedures and functions, no object-oriented programming

Usage: mainly educational and academic.

The original Pascal was designed as a pedagogical tool, allowing the understanding of the logic and rigor required for any reliable program.

2 Turbo Pascal

Developer: Borland, 1980s

Objective: Rapid development on PC under DOS

Characteristics: integrated IDE and fast compiler, practical extensions (hardware access, graphical functions, system libraries), compatible with standard Pascal but enhanced for productivity

Usage: DOS PC applications, advanced learning, rapid prototyping.

Turbo Pascal democratized Pascal, making programming accessible and fast on personal computers.

3 Object Pascal

Evolution of Turbo Pascal

Popularized by Borland Delphi, 1990s

Characteristics: object-oriented programming (classes, inheritance, polymorphism), integrated graphical and database libraries, modern syntax compatible with classic Pascal

Usage: Windows applications, databases, professional software.

Object Pascal opened the way to modern programming on Windows while keeping Pascal's simplicity.

4 Free Pascal & Lazarus

Free Pascal: open-source compiler compatible with Turbo Pascal and Delphi

Lazarus: RAD (Rapid Application Development) environment based on Free Pascal

Characteristics: multi-platform (Windows, Linux, macOS), support for object-oriented programming, compatible with older Pascal versions

Usage: modern development, cross-platform applications.

Free Pascal and Lazarus are the open-source solution to continue developing in Pascal today, on all systems.

5 UCSD Pascal

Developed for UCSD p-System, 1980s

Characteristics: portable thanks to a virtual machine

Usage: teaching and development on university microcomputers.

UCSD Pascal was the portable version of Pascal, used for learning on different microcomputers.

6 Extended Pascal

Objective: modernized version with extensions for industrial and academic applications

Characteristics: new data types, extended control structures, compatibility with ISO standards

Usage: projects requiring modern and robust extensions.

Extended Pascal combines the rigor of the standard with modern features for demanding developers.

7 Pascal Script

Objective: scripting language based on Object Pascal

Characteristics: interpreted or compiled on the fly, simplified syntax similar to Object Pascal, easy integration into Delphi or Free Pascal software

Usage: automation, custom scripts, adding dynamic features.

Pascal Script allows the creation of lightweight and powerful scripts in existing applications, making Pascal flexible for modern development.

Conclusion

Pascal has come a long way: from a simple educational language to professional and cross-platform solutions, including integrated scripting.

Each variant retains the spirit of Pascal while adding features adapted to its time and usage:

- Education: Standard Pascal, UCSD Pascal
- PCs and rapid prototyping: Turbo Pascal
- Professional and Windows applications: Object Pascal / Delphi
- Open-source cross-platform: Free Pascal / Lazarus
- Integrated scripting: Pascal Script

Pascal remains an example of an evolving, educational, and adaptable language, with more than 50 years of success in the world of programming.

To each their own Pascal language:

Urbi et Orbi Blessing – Easter (in Latin)

Praedicans solemnem paschalem diem, Sanctae Romanae Ecclesiae Pontifex universis fideles in Christo dilectos salutem et apostolicam benedictionem mittit.

Introductio

Carissimi fratres et filiae, hodie gaudium magnum celebramus: resurrectio Domini nostri Iesu Christi. In hoc sanctissimo die, laetamur et universum populum Christi percipiat gratiam divinam.

Benedictio

Dominus vobiscum.

Et cum spiritu tuo.

Benedicat vos omnipotens Deus, Pater, et Filius, et Spiritus Sanctus.

Amen.

Indulgentiam plenariam, et veniam peccatorum vestrorum cum gratiarum actione tribuat omnipotens et misericors Deus.

Amen.

Urbi et Orbi: Romanis et universis fidelibus Christi gratia, pax et salutem redemptivam afferat.

Amen.
