

allows programmers to perform wide range of applications varying from text processing, maintaining databases, to GUI Programming.

k) Dynamically types

❖ Python is a **dynamically typed language**, which means there is no need to declare variables explicitly.

❖ Programs run immediately without taking much time to link and compile.

Compiler vs. Interpreter

Compiler	Interpreter
Scans the entire program and translates it as a whole into machine code	Translates one statement at a time
It takes large amount of time to analyze the source code but the overall execution time is comparatively faster	It takes less amount of time to analyze the source code but the overall execution time is slower
Generates intermediate object code which further requires linking, hence requires more memory	No intermediate object code is generated, hence memory is efficient
It generates error message only after scanning the whole program, Hence debugging is comparatively hard	Continues translating the program until the first error is met, in which case it stops. Hence debugging is easy.
Programming languages such as C and C++ use compilers	Programming languages such as Python and Ruby use interpreters