

## APL Assignment 1.b

Aishwarya Vivek Bhavsar  
(CSULB ID : 029371509)

**Qs.2 Find the approximate number of reserved / keywords in the following languages (and say whether it is usually translated by being interpreted, compiled or is a hybrid:**

Ada 2010

BASIC

Visual Basic

C (1999)

C#

C++ (2014)

COBOL (2014)

FORTTRAN 77

Fortran 2008

Java

Ruby

SQL

### ➤ **SOLUTION:**

**Classification of the languages based on implementation methods:**

| Interpreted Language       | Compiled Language | Hybrid Language |
|----------------------------|-------------------|-----------------|
| BASIC                      | Ada 2010          | Java            |
| Ruby (frequently compiled) | Visual Basic      | SQL             |
|                            | C(1999)           | C#              |
|                            | C++(2014)         |                 |
|                            | COBOL(2014)       |                 |
|                            | FORTTRAN 77       |                 |
|                            | Fortran 2008      |                 |

## 1] ADA 2010

- **Reserved Keywords total count: 73**
- **Translated by being compiled.**

- **Explanation:**

- 1. Ada packages are compiled separately.**
- 2. Detection of software errors like wrong parameters, range violations, invalid references, mismatch types during compile time.**
- 3. Compiler detects potential deadlocks.**

- **ADA Reserved Keywords**

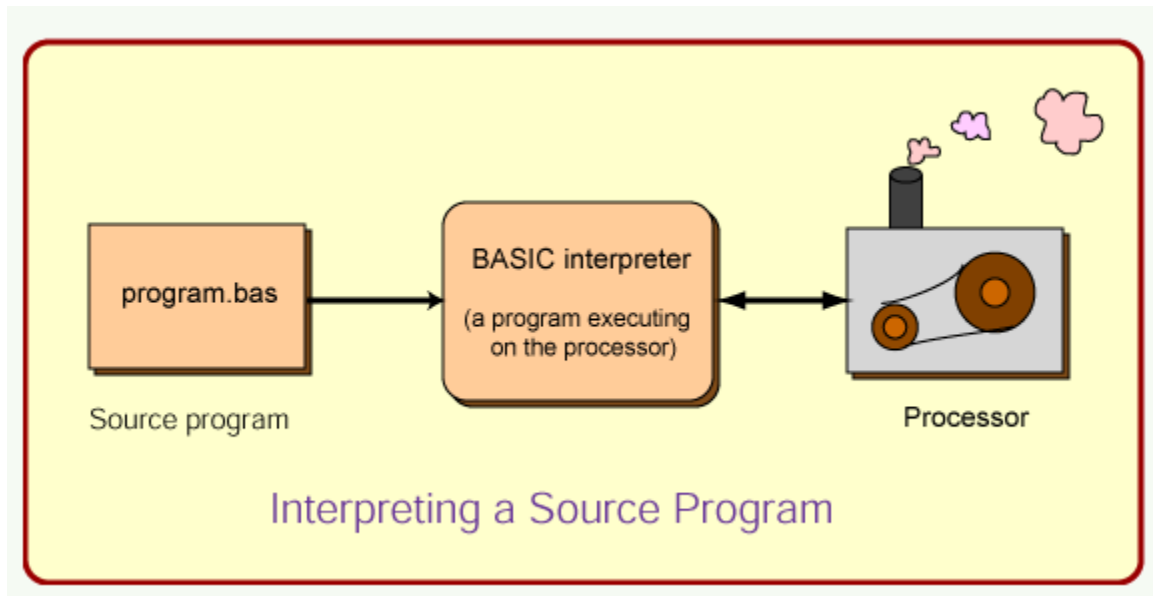
|          |          |           |           |            |          |              |       |
|----------|----------|-----------|-----------|------------|----------|--------------|-------|
| abort    | begin    | elsif     | interface | others     | record   | synchronised | while |
| abs      | body     | end       | is        | out        | rem      | tagged       | with  |
| abstract | case     | entry     | limited   | overriding | renames  | task         | xor   |
| accept   | constant | exception | loop      | package    | requeue  | terminate    |       |
| access   | declare  | exit      | mod       | pragma     | return   | then         |       |
| aliased  | delay    | for       | new       | private    | reverse  | type         |       |
| all      | delta    | function  | not       | procedure  | select   | until        |       |
| and      | digits   | generic   | null      | protected  | separate | use          |       |
| array    | do       | goto      | of        | raise      | some     | when         |       |
| at       | else     | if        | or        | range      | subtype  |              |       |

## 2] BASIC

- Reserved Keywords total count: 40
- Translated by being interpreted.

- Explanation:

1. program.bas written by the programmer in BASIC programming language interpreted by BASIC interpreter and then executed.



➤ **BASIC Reserved Keywords**

|       |        |       |         |       |
|-------|--------|-------|---------|-------|
| let   | data   | read  | restore | if    |
| then  | for    | to    | next    | while |
| wend  | repeat | until | do      | loop  |
| goto  | gosub  | on    | def fn  | list  |
| print | input  | tab   | spc     | abs   |
| atn   | cos    | exp   | int     | log   |
| rnd   | sin    | sqr   | tan     | rem   |
| usr   | call   | tron  | troff   | asm   |

### 3] VISUAL BASIC

- Reserved Keywords total count: 191
- Translated by being compiled.

- **Explanation:**

1. The source code is compiled into executable (.exe) files, which are executed by the . Net platform

- **VISUAL BASIC Reserved Keywords**

|                  |                        |                     |  |         |                     |
|------------------|------------------------|---------------------|--|---------|---------------------|
| AddHandler       | ByRef                  | CByte               | Class<br>Constraint                        | CShort  | Date                |
| AddressOf        | Byte                   | CChar               | Class<br>Statement                         | CSng    | Decimal             |
| Alias            | ByVal                  | CDate               | CLng                                       | CStr    | Declare             |
| And              | Call                   | Cdbl                | CObj                                       | CType   | Default             |
| AndAlso          | Case                   | CDec                | Const                                      | CUInt   | Delegate            |
| As               | Catch                  | Char                | Continue                                   | CULng   | Dim                 |
| Boolean          | CBool                  | CInt                | CSByte                                     | CUShort | DirectCast          |
| Do               | Error                  | GetType             | Imports<br>(.NET<br>Namespace<br>and Type) | Is      | Module<br>Statement |
| Double           | Event                  | GetXMLNam<br>espace | Imports (XML<br>Namespace)                 | IsNot   | MustInherit         |
| Each             | Exit                   | Global              | In   | Let     | MustOverride        |
| Else             | FALSE                  | GoSub               | In (Generic<br>Modifier)                   | Lib     | MyBase              |
| Elseif           | Finally                | GoTo                | Inherits                                   | Like    | MyClass             |
| End<br>Statement | For (in<br>For...Next) | Handles             | Integer                                    | Long    | NameOf              |
| End <keyword>    | For<br>Each...Next     | If                  | Interface                                  | Loop    | Namespace           |
| EndIf            | Friend                 | If()                | Is   | Me      | Narrowing           |
| Enum             | Function               | Implements          | IsNot                                      | Mod     | New                 |

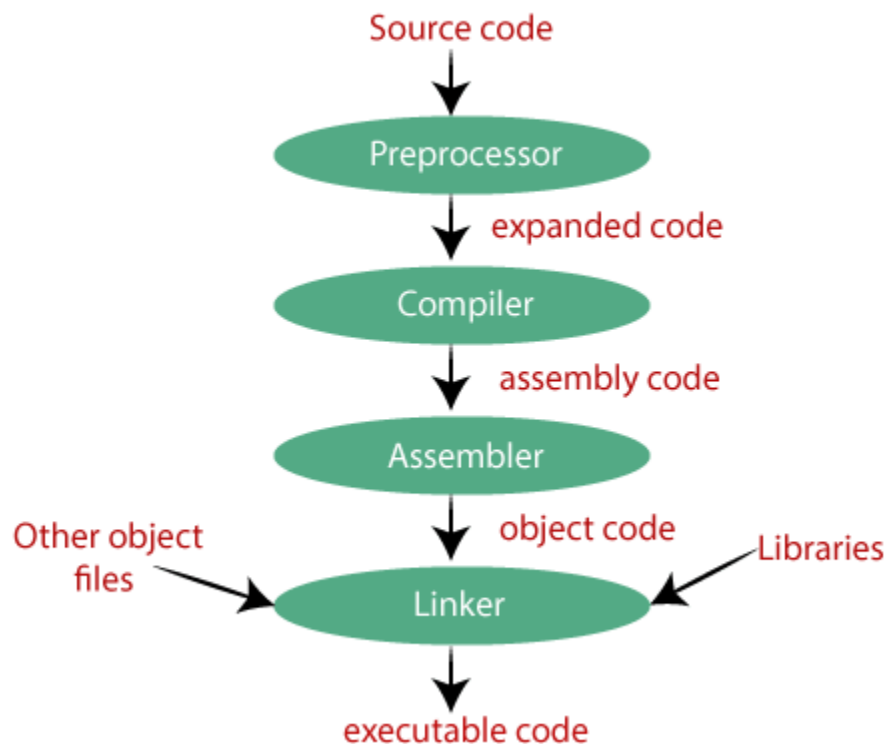
|                      |             |                        |            |               |              |
|----------------------|-------------|------------------------|------------|---------------|--------------|
|                      |             |                        |            |               | Constraint   |
| Erase                | Get         | Implements Statement   | Let        | Module        | New Operator |
| Next                 | Of          | Out (Generic Modifier) | Private    | RemoveHandler | Shared       |
| Next (in Resume)     | On          | Overloads              | Property   | Resume        | Short        |
| Not                  | Operator    | Overridable            | Protected  | Return        | Single       |
| Nothing              | Option      | Overrides              | Public     | SByte         | Static       |
| Notinheritable       | Optional    | ParamArray             | RaiseEvent | Select        | Step         |
| NotOverridable       | Or          | Partial                | ReadOnly   | Set           | Stop         |
| Object               | OrElse      | REM                    | ReDim      | Shadows       | String       |
| Structure Constraint | TRUE        | Using                  | WithEvents | =             | \            |
| Structure Statement  | Try         | Variant                | WriteOnly  | &             | \=           |
| Sub                  | TryCast     | Wend                   | Xor        | &=            | ^            |
| SyncLock             | TypeOf...Is | When                   | #Const     | *             | ^=           |
| Then                 | UInteger    | While                  | #Else      | *=            | +            |
| Throw                | ULong       | Widening               | #Elseif    | /             | +=           |
| To                   | UShort      | With                   | #End       | /=            | -            |
| -=                   | >> Operator | >>= Operator           | <<         | <<=           |              |

#### 4] C(1999)

- Reserved Keywords total count: 34
- Translated by being compiled.

- Explanation:

1. Let's take a c program. (Test.c)
2. The source code of Test.c is converted into expanded code (Test.i) by a preprocessor.
3. This expanded code (Test.i) is then converted into assembly code (Test.s) by a compiler.
4. The Test.s is now passed to assembler and converted into (Test.obj).
5. Linker links the object code of the program to the object code of library files. The output of which is an (Test.exe) executable file.



➤ C(1999) Reserved Keywords

|        |       |          |        |       |          |         |        |
|--------|-------|----------|--------|-------|----------|---------|--------|
| auto   | break | case     | char   | const | continue | default | do     |
| double | else  | enum     | extern | float | for      | goto    | if     |
| int    | long  | register | return | short | signed   | sizeof  | static |

|        |        |         |       |         |          |      |          |
|--------|--------|---------|-------|---------|----------|------|----------|
| struct | switch | typedef | union | typedef | unsigned | void | volatile |
| while  | packed |         |       |         |          |      |          |

## 5] C#

- **Reserved Keywords total count: 79**
- **Translated by being hybrid.**

- **Explanation:**

1. Source code -> Compiler -> Machine code

Source code -> Compiler -> Byte Code -> Interpreter -> Machine code

2. C# is typically interpreted into bytecode which is compiled by the CLR, the common language runtime, another virtual machine.

- **C# Reserved Keywords**

|           |           |          |            |                        |                       |         |
|-----------|-----------|----------|------------|------------------------|-----------------------|---------|
| abstract  | As        | base     | bool       | break                  | byte                  | case    |
| catch     | Char      | checked  | class      | const                  | continue              | decimal |
| default   | delegate  | do       | double     | else                   | enum                  | event   |
| explicit  | Extern    | FALSE    | finally    | fixed                  | float                 | for     |
| foreach   | Goto      | if       | implicit   | in                     | in (generic modifier) | int     |
| interface | internal  | is       | lock       | long                   | namespace             | new     |
| null      | Object    | operator | out        | out (generic modifier) | override              | params  |
| private   | protected | public   | readonly   | ref                    | return                | sbyte   |
| sealed    | Short     | sizeof   | stackalloc | static                 | string                | struct  |
| switch    | This      | throw    | TRUE       | try                    | typeof                | uint    |
| ulong     | unchecked | unsafe   | ushort     | using                  | virtual               | void    |
| volatile  | While     |          |            |                        |                       |         |

## 6] C++(2014)

- **Reserved Keywords total count: 95**
- **Translated by being compiled.**

- **Explanation:**

1. **C++ source code splits into header and source files.**
2. **Compiler runs the preprocessor on it. Header files aren't passed to the compiler, only source files are passed.**
3. **Compiler starts compilation and produces object files.**

- **C++ Reserved Keywords**

|               |               |                 |
|---------------|---------------|-----------------|
| alignas       | alignof       | and             |
| and           | and_eq        | asm             |
| atomic_cancel | atomic_commit | atomic_noexcept |
| auto          | bitand        | bitor           |
| bool          | break         | case            |
| catch         | char          | char16_t        |
| char32_t      | class         | compl           |
| concept       | const         | constexpr       |
| const_cast    | continue      | co_await        |
| co_return     | co_yield      | decltype        |
| default       | delete        | do              |
| double        | dynamic_cast  | else            |
| enum          | explicit      | export          |
| extern        | FALSE         | float           |
| for           | friend        | goto            |
| if            | import        | inline          |
| int           | long          | module          |
| mutable       | namespace     | new             |
| noexcept      | not           | not_eq          |
| nullptr       | operator      | or              |



|               |              |                  |
|---------------|--------------|------------------|
| or_eq         | private      | protected        |
| public        | register     | reinterpret_cast |
| requires      | return       | short            |
| signed        | sizeof       | static           |
| static_assert | static_cast  | struct           |
| switch        | synchronized | template         |
| this          | thread_local | throw            |
| TRUE          | try          | typedef          |
| typeid        | typename     | union            |
| unsigned      | using        | virtual          |
| void          | volatile     | wchar_t          |
| while         | xor          | xor_eq           |

## 7] COBOL(2014)

- **Reserved Keywords total count: 408**
- **Translated by being compiled.**
- **Explanation:**
  1. **COBOL code is converted into machine code by a compiler.**
  2. **Compiler first checks for syntax errors and then converts them into machine language.**
  3. **Compiler creates an output file known as a “load module”.**
  4. **This “load module” contains executable code in the forms of 0’s and 1’s.**

### ➤ **COBOL Reserved Keywords**

|           |                     |           |           |            |
|-----------|---------------------|-----------|-----------|------------|
| ACCEPT    | ALPHABETIC-LOWER    | APPLY     | BEFORE    | CBL        |
| ACCESS    | ALPHABETIC-UPPER    | ARE       | BEGINNING | CD         |
| ADD       | ALPHANUMERIC        | AREA      | BINARY    | CF         |
| ADDRESS   | ALPHANUMERIC-EDITED | AREAS     | BLANK     | CHARACTER  |
| ADVANCING | ALSO                | ASCENDING | BLOCK     | CHARACTERS |

|          |           |        |        |             |
|----------|-----------|--------|--------|-------------|
| AFTER    | ALTER     | ASSIGN | BOTTOM | CLASS       |
| ALL      | ALTERNATE | AT     | BY     | CLASS-ID    |
| ALPHABET | AND       | AUTHOR | CALL   | CLOCK-UNITS |

|                |               |                     |             |               |
|----------------|---------------|---------------------|-------------|---------------|
| CLOSE          | COMMON        | COMPUTATIONAL       | CONTAINS    | CORRESPONDING |
| COBOL          | COMMUNICATION | COMPUTATIONAL<br>-1 | CONTENT     | COUNT         |
| CODE           | COMP          | COMPUTATIONAL<br>-2 | CONTINUE    | CURRENCY      |
| CODE-SET       | COMP-1        | COMPUTATIONAL<br>-3 | CONTROL     | DATA          |
| COLLATING      | COMP-2        | COMPUTATIONAL<br>-4 | CONTROLS    | DATE-COMPILED |
| COLUMN         | COMP-3        | COMPUTATIONAL<br>-5 | CONVERTING  | DATE-WRITTEN  |
| COM-REG        | COMP-4        | COMPUTE             | COPY        | DAY           |
| COMMA          | COMP-5        | CONFIGURATION       | CORR        | DAY-OF-WEEK   |
| DBCS           | DEBUG-SUB-1   | DELETE              | DETAIL      | DUPLICATES    |
| DE             | DEBUG-SUB-2   | DELIMITED           | DISPLAY     | DYNAMIC       |
| DEBUG-CONTENTS | DEBUG-SUB-3   | DELIMITER           | DISPLAY-1   | EEGCS         |
| DEBUG-ITEM     | DEBUGGING     | DEPENDING           | DIVIDE      | EGI           |
| DEBUG-LINE     | DECIMAL-POINT | DESCENDING          | DIVISION    | EJECT         |
| DEBUG-NAME     | DECLARATIVES  | DESTINATION         | DOWN        | ELSE          |
| EMI            | END-COMPUTE   | END-INVOKE          | END-RECEIVE | END-STRING    |
| ENABLE         | END-DELETE    | END-MULTIPLY        | END-RETURN  | END-SUBTRACT  |
| END            | END-DIVIDE    | END-OF-PAGE         | END-REWRITE | END-UNSTRING  |

|          |              |             |            |           |
|----------|--------------|-------------|------------|-----------|
| END-ADD  | END-EVALUATE | END-PERFORM | END-SEARCH | END-WRITE |
| END-CALL | END-IF       | END-READ    | END-START  | ENDING    |

|             |   |             |               |                 |
|-------------|---|-------------|---------------|-----------------|
| ENTER       | ERROR   | EXIT        | FILE          | FOOTING         |
| ENTRY       | ESI   | EXTEND      | FILE-CONTROL  | FOR             |
| ENVIRONMENT | EVALUATE  | EXTERNAL    | FILLER        | FROM            |
| EOP         | EVERY   | FALSE       | FINAL         | FUNCTION        |
| EQUAL       | EXCEPTION   | FD          | FIRST         | GENERATE        |
| GIVING      | GROUP<br>HEADING<br>HIGH-VALUE<br>HIGH-VALUES<br>-O | IN          | INITIAL       | INSERT          |
| GLOBAL      | I-O-CONTROL   | INDEX       | INITIALIZE    | INSPECT         |
| GO          | ID  | INDEXED     | INITIATE      | INSTALLATION    |
| GOBACK      | IDENTIFICATION                                      | INDICATE    | INPUT         | INTO            |
| GREATER     | IF  | INHERITS    | INPUT-OUTPUT  | INVALID         |
| INVOKE      | LIMIT   | MEMORY      | NATIVE        | OBJECT-COMPUTER |
| IS          | LIMITS  | MERGE       | NATIVE_BINARY | OCCURS          |
| JUSTIFIED   | LINAGE  | MESSAGE     | NEGATIVE      | OF              |
| LAST        | LINAGE-COUNTER                                      | METAClass   | NEXT          | OFF             |
| JUST        | LINE  | METHOD      | NO            | OMITTED         |
| LEADING     | LINE-COUNTER  | METHOD-ID   | NOT           | ON              |
| KANJI       | LINES   | MODE        | NULL          | OPEN            |
| LEFT        | LINKAGE   | MODULES     | NULLS         | OPTIONAL        |
| KEY         | LOCAL-STOR  | MORE-LABELS | NUMBER        | OR              |

|                |                       |                 |                    |               |
|----------------|-----------------------|-----------------|--------------------|---------------|
|                | AGE                   |                 |                    |               |
| LENGTH         | LOCK                  | MOVE            | NUMERIC            | ORDER         |
| LABEL          | LOW-VALUE             | MULTIPLE        | NUMERIC-EDIT<br>ED | ORGANIZATION  |
| LESS           | LOW-VALUES            | MULTIPLY        | OBJECT             | OTHER         |
| OUTPUT         | POSITION              | QUOTES          | REMAINDER          | REVERSED      |
| OVERFLOW       | POSITIVE              | READY           | REMOVAL            | REWIND        |
| OVERRIDE       | PRINTING              | RANDOM          | RENAMES            | REWRITE       |
| PACKED-DECIMAL | PROCEDURE             | RECEIVE         | REPLACE            | RF            |
| PADDING        | PROCEDURE<br>-POINTER | RECORD          | REPLACING          | RH            |
| PAGE           | PROCEDURES            | RECORDING       | REPORT             | RIGHT         |
| PAGE-COUNTER   | PROCEED               | RECORDS         | REPORTING          | ROUNDED       |
| PASSWORD       | PROCESSING            | RECURSIVE       | REPORTS            | RUN           |
| PERFORM        | PROGRAM               | REDEFINES       | REPOSITORY         | SSAME         |
| PF             | PROGRAM-ID            | REEL            | RERUN              | SD            |
| PH             | PURGE                 | REFERENCE       | RESERVE            | SEARCH        |
| PIC            | QUEUE                 | REFERENCES      | RESET              | SECTION       |
| PICTURE        | RD                    | RELATIVE        | RETURN             | SECURITY      |
| PLUS           | QUOTE                 | RELEASE         | RETURN-CODE        | SEGMENT       |
| POINTER        | READ                  | RELOAD          | RETURNING          | SEGMENT-LIMIT |
| SELECT         | SIGN                  | SORT-MODE-SIZE  | STATUS             | SYNC          |
| SELF           | SIZE                  | SORT-RETURN     | STOP               | SYNCHRONIZED  |
| SEND           | SKIP1                 | SOURCE          | STRING             | TTABLE        |
| SENTENCE       | SKIP2                 | SOURCE-COMPUTER | SUB-QUEUE-1        | TALLY         |
| SEPARATE       | SKIP3                 | SPACE           | SUB-QUEUE-2        | TALLYING      |

|            |                    |                     |                   |           |
|------------|--------------------|---------------------|-------------------|-----------|
| SEQUENCE   | SORT               | SPACES              | SUB-QUEUE-3       | TAPE      |
| SEQUENTIAL | SORT-CONTR<br>OL   | SPECIAL-NAM<br>ES   | SUBTRACT          | TERMINAL  |
| SERVICE    | SORT-CORE-<br>SIZE | STANDARD            | SUM               | TERMINATE |
| SET        | SORT-FILE-SI<br>ZE | STANDARD-1          | SUPER             | TEST      |
| SHIFT-IN   | SORT-MERG<br>E     | STANDARD-2          | SUPPRESS          | TEXT      |
| SHIFT-OUT  | SORT-MESSA<br>GE   | START               | SYMBOLIC          | THAN      |
| THEN       | UNIT               | WORDS               | TRAILING          | ZERO      |
| THROUGH    | UNSTRING           | WORKING-STO<br>RAGE | TRUE              | ZEROS     |
| THRU       | UNTIL              | VARYING             | TYPE              | ZEROES    |
| TIME       | UP                 | WRITE               | WHEN-COMPIL<br>ED | USE       |
| TIMES      | UPON               | WRITE-ONLY          | VALUES            | USING     |
| TITLE      | USAGE              | WHEN                | WITH              | VALUE     |
| TO         | TOP                | TRACE               |                   |           |

## 8] FORTRAN 77

- **Reserved Keywords total count:** There are no specific reserved keywords in Fortran 77, but 42 keywords are present which cannot be used as identifiers.
- **Translated by being compiled.**
- **Explanation:**
  1. FORTRAN 77 processes each source file into machine code.
  2. The output after the processing is an object file. Each source file is compiled into a separate object file.

### ➤ FORTRAN 77 Reserved Keywords

|        |       |         |     |          |      |
|--------|-------|---------|-----|----------|------|
| assign | close | else if | end | function | goto |
|--------|-------|---------|-----|----------|------|

|            |          |           |         |             |          |
|------------|----------|-----------|---------|-------------|----------|
| backspace  | common   | else      | endfile | format      | If       |
| block data | continue | do        | endif   | external    | implicit |
| call       | data     | dimension | entry   | equivalence | inquire  |
| intrinsic  | open     | parameter | pause   | print       | program  |
| save       | stop     | rewrite   | rewind  | return      | read     |
| subroutine | then     | write     |         |             |          |

## 9] Fortran 2008

- **Reserved Keywords total count: 106**
- **Translated by being compiled.**

- **Explanation:**

1. The source code is converted into machine code using a compiler.

- **Fortran 2008 Reserved Keywords**

|            |          |           |         |             |          |
|------------|----------|-----------|---------|-------------|----------|
| assign     | close    | else if   | end     | function    | goto     |
| backspace  | common   | else      | endfile | format      | If       |
| block data | continue | do        | endif   | external    | implicit |
| call       | data     | dimension | entry   | equivalence | inquire  |
| intrinsic  | open     | parameter | pause   | print       | program  |
| save       | stop     | rewrite   | rewind  | return      | read     |
| subroutine | then     | write     |         |             |          |

|             |          |          |          |           |          |
|-------------|----------|----------|----------|-----------|----------|
| allocatable | nullify  | only     | while    | where     | bind     |
| allocate    | namelist | operator | use      | elemental | class    |
| case        | module   | optional | target   | forall    | deferred |
| contains    | intent   | pointer  | sequence | pure      | enum     |

|            |           |           |                  |              |            |
|------------|-----------|-----------|------------------|--------------|------------|
| cycle      | interface | private   | select           | abstract     | enumerator |
| deallocate | include   | procedure | result           | associate    | extends    |
| elsewhere  | exit      | public    | recursive        | asynchronous | final      |
| flush      | generic   | import    | non-overrideable | nopass       | pass       |
| protected  | value     | volatile  | wait             |              |            |

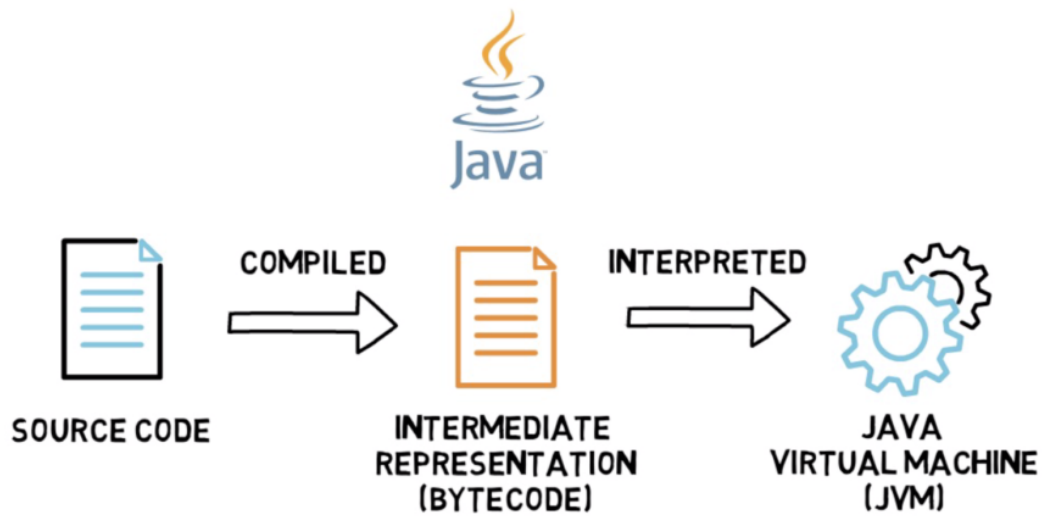
|       |             |               |             |             |          |
|-------|-------------|---------------|-------------|-------------|----------|
| block | codimension | do concurrent | critical    | error stop  | sync all |
| lock  | submodule   | contiguous    | sync images | sync memory | unlock   |

## 10] Java

- **Reserved Keywords total count: 50**
- **Translated by being hybrid.**

- **Explanation:**

1. **JAVA = Compiler + Interpreter**
2. **Java compiler (javac) compiles java source code into java class files containing bytecode.**
3. **Java interpreter (java) interprets this byte code line by line converts it to the machine language and executes.**
4. **JVM optimizes the code at runtime.**



➤ **JAVA Reserved Keywords**

|          |            |           |              |           |          |         |
|----------|------------|-----------|--------------|-----------|----------|---------|
| abstract | import     | volatile  | goto         | transient | finally  | this    |
| byte     | long       | assert    | instanceof   | while     | if       | try     |
| class    | private    | case      | native       | boolean   | int      | break   |
| do       | short      | const     | protected    | catch     | new      | char    |
| extends  | switch     | double    | static       | continue  | public   | default |
| for      | throws     | final     | synchronized | else      | strictfp | enum    |
| float    | implements | interface | package      | return    | super    | throw   |
| void     |            |           |              |           |          |         |



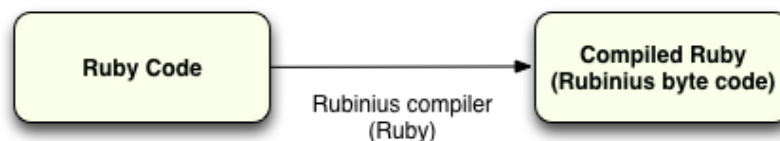
## 11] Ruby

- **Reserved Keywords total count 37.**
- **Translated by being frequently compiled and interpreted.**

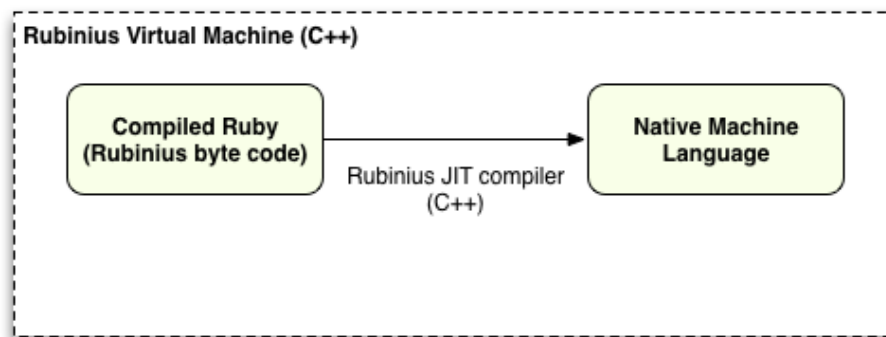
- **Explanation:**

1. Ruby scripts are run on the Rubinius compiler.
2. This is a two step process. The Ruby compiler compiles the code into bytecode and later execute it into machine language using Rubinius virtual machine
3. Byte code instructions are interpreted.

Step 1: Compile Ruby to byte code



Step 2: Compile Byte Code to Machine Language



- **Ruby Reserved Keywords**

|       |         |        |        |        |       |        |      |
|-------|---------|--------|--------|--------|-------|--------|------|
| alias | class   | elsif  | if     | or     | self  | unless | file |
| and   | def     | end    | module | redo   | super | until  | line |
| begin | defined | ensure | next   | rescue | then  | when   |      |
| break | do      | false  | nil    | retry  | true  | while  |      |

|      |      |     |     |        |       |       |  |
|------|------|-----|-----|--------|-------|-------|--|
| case | else | for | not | return | undef | yield |  |
|------|------|-----|-----|--------|-------|-------|--|

## 12] SQL

- **Reserved Keywords total count: 414**
- **Translated by being hybrid.**

- **Explanation:**

1. User writes a sql query and it is fed to a database server.
2. The PL/SQL compiler translates the code into bytecode.
3. Once the compiling is completed by the SQL compiler, it hands further execution to the sql engine. (PVM) PL/SQL Virtual Machine interprets the byte code.
4. The SQL engine then returns the status as success or failure to the client.

- **SQL Reserved Keywords**

|           |               |            |      |             |          |                 |               |
|-----------|---------------|------------|------|-------------|----------|-----------------|---------------|
| add       | external      | procedure  | all  | fetch       | public   | alter           | file          |
| raiserror | and           | fillfactor | any  | read        | readtext | foreign         | reconfigure   |
| freetext  | freetexttable | references | for  | replication | backup   | restore         | authorization |
| from      | restore       | begin      | as   | full        | restrict | between         | function      |
| return    | break         | goto       | asc  | revert      | browse   | grant           | revoke        |
| bulk      | group         | right      | by   | having      | cascade  | holdlock        | rollback      |
| rowcount  | case          | identity   | if   | check       | rule     | identity_insert | rowguidcol    |
| identity  | identitycol   | checkpoint | in   | save        | close    | schema          | clustered     |
| commit    | coalesce      | intersect  | key  | index       | select   | collate         | inner         |
| column    | insert        | join       | into | compute     | set      | setuser         | session_user  |
| key       | kill          | continue   | is   | some        | convert  | left            | constraint    |

|       |        |            |     |      |       |        |          |
|-------|--------|------------|-----|------|-------|--------|----------|
| table | create | statistics | set | like | cross | lineno | contains |
|-------|--------|------------|-----|------|-------|--------|----------|

|                |                                   |              |
|----------------|-----------------------------------|--------------|
| security audit | semantic key phrase table         | system_user  |
| containstable  | semantic similarity details table | tablesample  |
| shutdown       | semanticsimilaritytable           | current_date |

|         |                   |        |          |              |              |
|---------|-------------------|--------|----------|--------------|--------------|
| current | non-clustered     | merge  | textsize | current_time | national     |
| then    | current_timestamp | load   | to       | nocheck      | current_user |
| top     | transaction       | cursor | not      | tran         | database     |

|         |          |           |                |      |            |         |
|---------|----------|-----------|----------------|------|------------|---------|
| null    | nullif   | trigger   | deallocate     | of   | truncate   | declare |
| tsequal | offsets  | declare   | try_convert    | off  | default    | delete  |
| open    | union    | deny      | opendatasource | on   | unique     | unpivot |
| desc    | disk     | disk      | openquery      | use  | updatetext | option  |
| update  | distinct | user      | openrowset     | or   | openxml    | double  |
| dump    | values   | drop      | distributed    | end  | waitfor    | exists  |
| order   | varying  | else      | precision      | exec | where      | while   |
| errlvl  | percent  | outer     | execute        | with | except     | print   |
| escape  | pivot    | view      | primary        | over | plan       | exit    |
| proc    |          | writetext | withingroup    |      |            |         |

|          |         |          |          |          |           |
|----------|---------|----------|----------|----------|-----------|
| absolute | exec    | overlaps | action   | execute  | pad       |
| ada      | exists  | partial  | add      | external | pascal    |
| all      | extract | position | allocate | false    | precision |

|               |         |            |            |          |            |
|---------------|---------|------------|------------|----------|------------|
| alter         | fetch   | prepare    | and        | first    | preserve   |
| any           | float   | primary    | are        | for      | prior      |
| as            | foreign | privileges | asc        | fortran  | procedure  |
| assertion     | found   | public     | at         | from     | read       |
| authorisation | full    | real       | avg        | get      | references |
| begin         | global  | relative   | between    | go       | restrict   |
| bit           | goto    | revoke     | bit_length | grant    | right      |
| both          | group   | rollback   | by         | having   | rows       |
| cascade       | hour    | schema     | cascaded   | identity | scroll     |

|             |              |            |                  |              |
|-------------|--------------|------------|------------------|--------------|
| case        | immediate    | second     | cast             | section      |
| in          | catalog      | include    | select           | char         |
| index       | session      | initially  | indicator        | session_user |
| character   | char_length  | set        | character_length | inner        |
| size        | check        | input      | smallint         | close        |
| insensitive | some         | coalesce   | insert           | space        |
| collate     | int          | sql        | collation        | integer      |
| column      | intersect    | sqlcode    | commit           | interval     |
| sqlerror    | connect      | into       | sqlstate         | connection   |
| is          | sqlwarning   | constraint | isolation        | substring    |
| constraints | join         | sum        | continue         | key          |
| system_user | convert      | language   | corresponding    | table        |
| last        | temporary    | count      | leading          | then         |
| create      | left         | time       | cross            | level        |
| timestamp   | current      | like       | timezone_hour    | current_date |
| local       | current_time | lower      | timezone_minute  | to           |

|              |              |          |                   |          |
|--------------|--------------|----------|-------------------|----------|
| max          | current_user | match    | current_timestamp | trailing |
| date         | translate    | min      | transaction       | cursor   |
| minute       | translation  | day      | module            | trim     |
| deallocate   | month        | true     | deferrable        | dec      |
| names        | union        | decimal  | national          | unique   |
| declare      | natural      | unknown  | describe          | default  |
| next         | upper        | deferred | descriptor        | usage    |
| delete       | none         | no       | diagnostics       | numeric  |
| octet_length | user         | varying  | disconnect        | varchar  |

|          |        |          |           |       |       |
|----------|--------|----------|-----------|-------|-------|
| distinct | view   | of       | domain    | on    | when  |
| double   | only   | whenever | drop      | open  | where |
| else     | option | with     | end       | or    | work  |
| end-exec | order  | write    | escape    | outer | year  |
| except   | output | zone     | exception |       |       |