**Table of Contents** 

#### 1. Readability 1. Simplicity: 2. Orthogonality: 3. Control Statements: 4. Data Types and Structures: 5. Syntax Design: 2. Writability 1. Simplicity: 2. Orthogonality: 3. Support for Abstraction: 4. Expressivity: 3. Reliability 1. Type Checking: 2. Exception Handling: 3. Aliasing: 4. Readability:

Some of the language criterias to evaluate a programming language are:

1. Readability

7. Support for Internationalisation:

5. Writability:

Related posts:

4. Generality:5. Extensibility:6. Standardability:

3. Cost

- 2. Writability
- 3. Reliability
- 4. Cost
- 5. Generality
- 6. Extensibility

- 7. Standardability
- 8. Support for internationalization

# 1. Readability

Coding should be simple and clear to understand.

#### 1. Simplicity:

Should not involve complex syntax, many ways to perform a single task, overloading of methods and operator etc.

#### 2. Orthogonality:

This means relatively small set of primitive constructs can be combine.

- For ex., int \*count; Here pointer and integer is combined.
- Another ex., int count[ 5 ]; Here array and pointer is combine.

#### 3. Control Statements:

There should be adequate control statements.

- Use of for loop, while loop, do while loop is adequate.
- Using of go to statements causes poor readability.

#### 4. Data Types and Structures:

Language should involve adequate facilities for defining data types and data structure.

• For ex., timeout = 1; is unclear as compare to timeout = true;.

#### 5. Syntax Design:

Syntax design affects the readability in the following way.

- 1. Identifier forms: Restriction to very short length of identifier is a barrier to readability.
- 2. Special words: Special words like while, for, class, int affects the readability of any language. If special words are allowed to be variable names than it will become confusing.

## 2. Writability

Writability is a measure of how easily language can be used to code. Most of the language characteristics that affect readability also affect writability.

### 1. Simplicity:

Should not involve complex syntax, many ways to perform a single task, overloading of methods and operator etc.

### 2. Orthogonality:

This means relatively small set of primitive constructs can be combine.

• For ex., int \*count; Here pointer and integer is combined.

• Another ex., int count[ 5 ]; Here array and pointer is combine.

### 3. Support for Abstraction:

Language should support process and data abstraction

#### 4. Expressivity:

In less lines of code program should be writable.

- For ex., for statements makes counting loops easier than while.
- Another ex., is i++ is more expressive than i=i+1.

# 3. Reliability

#### 1. Type Checking:

It is testing for type error, either at compile or run time.

• For ex., float percentage; is more desirable as compare to int percentage.

#### 2. Exception Handling:

It is the ability of program to handle run time error. Remember, handling runtime error are more expensive than compile errors.

#### 3. Aliasing:

It is same memory location (variable) having more than one name. Which is causes confusion.

### 4. Readability:

Readability influences reliability.

#### 5. Writability:

Writability also influence reliability.

#### 3. Cost

Total cost of programming should be minimum.

- For ex., cost of trainer.
- Cost of writing algorithm.
- Cost of compiling program in the language.
- Cost of hardware required for program.
- Cost of maintenance.

# 4. Generality:

Language should not be limited to specific application only.

### 5. Extensibility:

Should be flexible, must be able to add new constructs.

# 6. Standardability:

Language should be platform independent.

## 7. Support for Internationalisation:

Various formats like time, date, currency etc should be supportable.

#### **Related Posts:**

- 1. Sequence Control & Expression | PPL
- 2. PPL:Named Constants
- 3. Parse Tree | PPL | Prof. Jayesh Umre
- 4. Basic elements of Prolog
- 5. Loops | PPL | Prof. Jayesh Umre
- 6. Subprograms Parameter passing methods | PPL | Prof. Jayesh Umre
- 7. Programming Paradigms | PPL | Prof. Jayesh Umre
- 8. Subprograms Introduction | PPL | Prof. Jayesh Umre
- 9. Phases of Compiler | PPL | Prof. Jayesh Umre
- 10. Parse Tree | PPL
- 11. Influences on Language design | PPL | Prof. Jayesh Umre
- 12. Fundamentals of Subprograms | PPL | Prof. Jayesh Umre
- 13. Programming Paradigm
- 14. Influences on Language Design
- 15. OOP in C++ | PPL

- 16. OOP in C# | PPL
- 17. OOP in Java | PPL
- 18. PPL: Abstraction & Encapsulation
- 19. PPL: Semaphores
- 20. PPL: Introduction to 4GL
- 21. PPL: Variable Initialization
- 22. PPL: Conditional Statements
- 23. PPL: Array
- 24. PPL: Strong Typing
- 25. PPL: Coroutines
- 26. PPL: Exception Handler in C++
- 27. PPL: OOP in PHP
- 28. PPL: Character Data Type
- 29. PPL: Exceptions
- 30. PPL: Heap based storage management
- 31. PPL: Primitive Data Type
- 32. PPL: Data types
- 33. Programming Environments | PPL
- 34. Virtual Machine | PPL
- 35. PPL: Local referencing environments
- 36. Generic Subprograms
- 37. Local referencing environments | PPL | Prof. Jayesh Umre
- 38. Generic Subprograms | PPL | Prof. Jayesh Umre
- 39. PPL: Java Threads
- 40. PPL: Loops
- 41. PPL: Exception Handling
- 42. PPL: C# Threads

- 43. Pointer & Reference Type | PPL
- 44. Scope and lifetime of variable
- 45. Design issues for functions
- 46. Parameter passing methods
- 47. Fundamentals of sub-programs
- 48. Subprograms
- 49. Design issues of subprogram
- 50. Garbage Collection
- 51. Issues in Language Translation
- 52. PPL Previous years solved papers
- 53. Type Checking | PPL | Prof. Jayesh Umre
- 54. PPL RGPV May 2018 solved paper discussion | Prof. Jayesh Umre
- 55. PPL Viva Voce
- 56. PPL RGPV June 2017 Solved paper | Prof. Jayesh Umre
- 57. Concurrency
- 58. Basic elements of Prolog
- 59. Introduction and overview of Logic programming
- 60. Application of Logic programming
- 61. PPL: Influences on Language Design
- 62. Language Evaluation Criteria PPL
- 63. PPL: Sequence Control & Expression
- 64. PPL: Programming Environments
- 65. PPL: Virtual Machine
- 66. PPL: Programming Paradigm
- 67. PPL: Pointer & Reference Type
- 68. try-catch block in C++