Purpose of Exception Handling:

• Exception handling in C++ is used to manage and recover from unexpected errors or exceptional situations that might occur during program execution.

Try-Catch Blocks:

- The try block is used to enclose the code that might cause an exception.
- If an exception occurs within the try block, the program jumps to the nearest matching catch block.

Throwing Exceptions:

- To indicate an error, you can "throw" an exception using the throw keyword.
- Exceptions can be of any type, including standard library exceptions or user-defined types derived from std::exception.

Catching Exceptions:

- The catch block is used to handle exceptions thrown within the corresponding try block.
- You can catch exceptions by their types, including base classes, to handle related exceptions in a single block.
- Usually, a reference (often const) to the exception type refers to the caught exception.

Standard Exceptions:

• C++ provides a set of standard exception classes, such as std::runtime_error,

std::logic error, and std::invalid argument, which are derived from std::exception.

Custom Exception Classes:

- You can create your own exception classes by deriving them from std::exception or other existing exception classes.
- Custom exception classes should typically provide a custom error message using the what() function.

Multiple Catch Blocks:

- You can have multiple catch blocks to handle different types of exceptions.
- Catch blocks are evaluated sequentially, and the first matching block is executed.

Order of Catch Blocks:

• Place more specific catch blocks before more general ones. Specific exceptions should be caught before their base classes.

Unhandled Exceptions:

• The program will terminate and display an error message if no catch block within the current scope is able to catch an exception.

Rethrowing Exceptions:

- You can use the throw statement inside a catch block to rethrow the caught exception.
- This allows an exception to be caught at one level of the call stack and then handled or rethrown at a higher level.

Resource Management:

• Even during exceptions, use exception handling to release memory or close files.

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. Language Evaluation Criteria
- 16. OOP in C++ | PPL
- 17. OOP in C# | PPL
- 18. OOP in Java | PPL
- 19. PPL: Abstraction & Encapsulation
- 20. PPL: Semaphores
- 21. PPL: Introduction to 4GL
- 22. PPL: Variable Initialization

- 23. PPL: Conditional Statements
- 24. PPL: Array
- 25. PPL: Strong Typing
- 26. PPL: Coroutines
- 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++