

- ۱) What is the Rust programming language?
- ۲) Briefly explain the features of the Rust language?
- ۳) In which areas is the Rust language more widely used?
- ۴) What is the difference between the Rust language and the C and C++ languages?
- ۵) Explain about the Cargo tool?
- ۶) Explain about the popular RustRover IDE?
- ۷) Name a few programs written in the Rust language?
- ۸) Briefly explain the capabilities of the Rust language in Concurrency and Parallelism with examples?
- ۹) Explain about the possibility of programming the Rust language for Microcontrollers and Robots?
- ۱۰) Explain about the concept of Ownership in the Rust language?
- ۱۱) Explain the concept of Smart Pointer in the Rust language?
- ۱۲) Explain about the use of the Rust programming language in the field of Smart Contracts?
- ۱۳) Explain about the use of the Rust programming language in the field of Blockchain?
- ۱۴) Explain about the use of the Rust programming language in the field of Artificial Intelligence?
- ۱۵) Name the test writing tools in Rust and explain their differences?
- ۱۶) Name the web programming tools in Rust and explain their differences?
- ۱۷) Explain the error handling mechanism in Rust with an example?
- ۱۸) Explain the capabilities of Rust in Functional Programming with an example?
- ۱۹) Is Object Oriented Programming possible in Rust? Explain with an example?
- ۲۰) Name the Machine Learning libraries in Rust? Write a simple example?
- ۲۱) Explain Multi-Threading programming in Rust with a simple example?
- ۲۲) Explain Parallel Programming in Rust with a simple example?

- ۲۳) Explain the concept of Meta Programming (Profiling, Reflection) in Rust with a simple example?
- ۲۴) What is Rust's solution to Memory Safety problems? Explain with a simple example?
- A. Use after free
 - B. Double free
 - C. Memory leaks
 - D. Buffer overreads/overwrites
 - E. Null pointers
 - F. Data races
- ۱۹) Explain the possibility of calling code from other languages in Rust?
- ۲۰) Explain the possibility of calling Rust code in languages such as Java, C#, C and Python?
- ۲۱) What is Lazy Loading? Explain with an example in Rust?
- ۲۲) Explain Asynchronous Programming in Rust with an example?
- ۲۳) Implement Binary Search Tree data structure in Rust?
- ۲۴) Implement AVL Tree data structure in Rust?
- ۲۵) Implement Max heap-Tree data structure in Rust?
- ۲۶) Write a RESTful API service to process JSON requests?
- ۲۷) Write a simple service to process requests based on the gRPC protocol?
- ۲۸) Write a simple service to process requests based on Web Assembly?
- ۲۹) Explain Socket Programming in Rust with an example?
- ۳۰) Write a program in Rust that performs CRUD operations on a database?
- ۳۱) Write a program using an ORM in Rust to perform CRUD operations on a database?
- ۳۲) Name the Parsing libraries in Rust? And explain the function of a Parser in the form of an example?
- ۳۳) What is the concept of Regular Expression? Explain in Rust with an example?
- ۳۴) What is the function of the SysInfo library in Rust? Explain with a simple example?

- ۳۵) What is the function of the native-windows-gui and Windwos libraries in Rust? Explain with a simple example?
- ۳۶) Write a program to perform simple processing on an Image?
- ۳۷) Write a program to perform a simple process on an Audio?
- ۳۸) Write a program to perform a simple process on a Video?
- ۳۹) Write a program to download a file from the Internet?
- ۴۰) Write a program to read and write a simple CSV file?
- ۴۱) Write a program to read and write a simple Excel file?

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