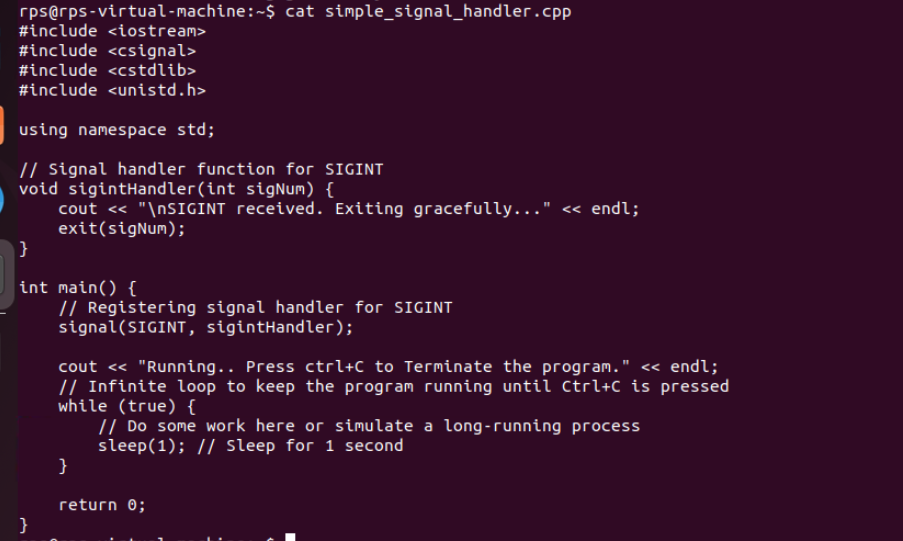
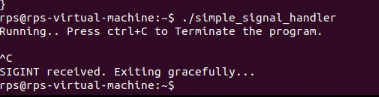
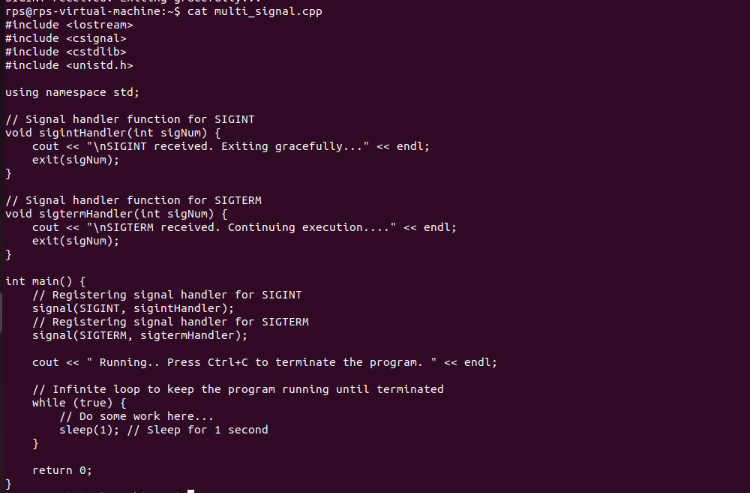
1. Basic Signal Handling

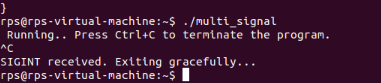
Simple Signal Handler: Write a C++ program that handles the SIGINT signal (Ctrl+C) gracefully by printing a custom message before exiting.



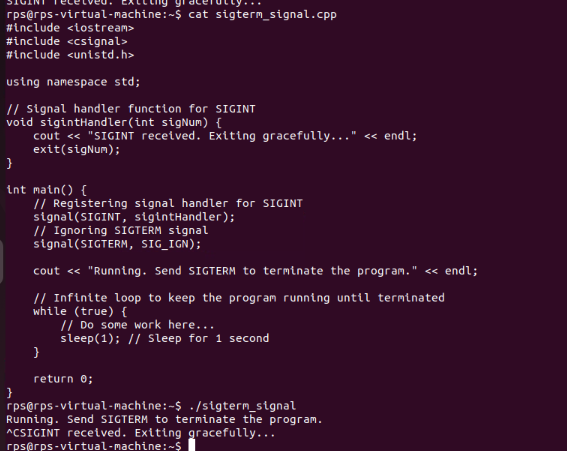


1. Multiple Signal Handling: Create a program that handles both SIGINT and SIGTERM signals, printing a different message for each.

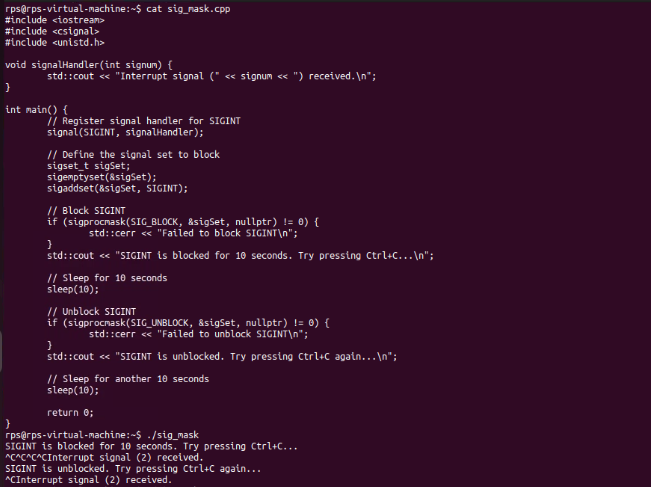


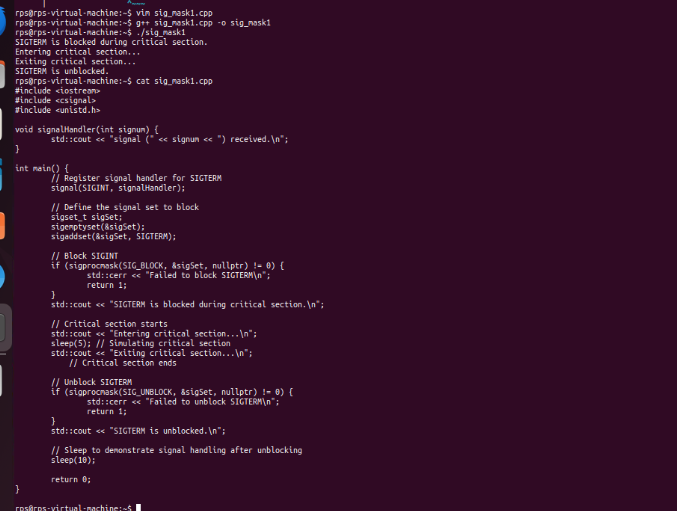


1. Ignoring Signals: Develop a program that ignores the SIGTERM signal and continues execution even after it's sent.

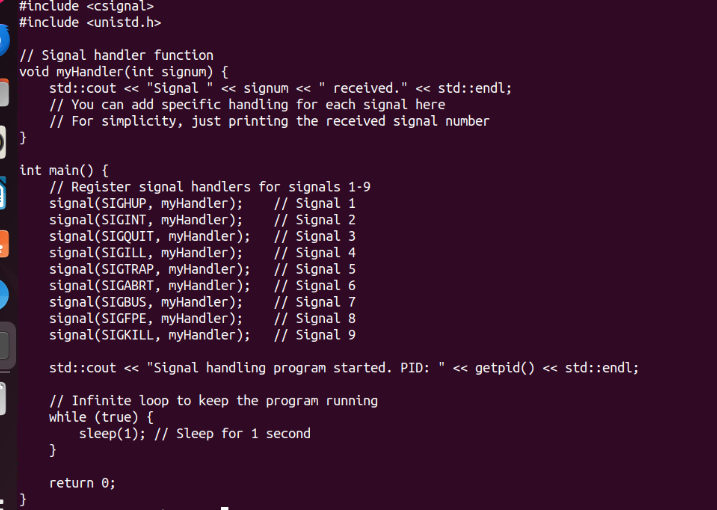


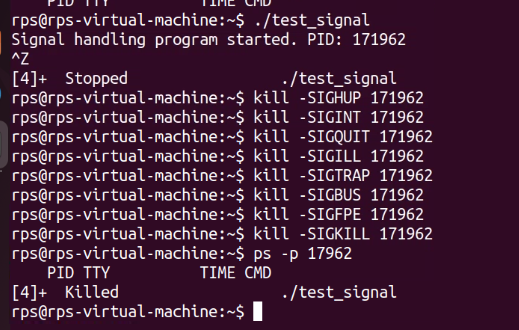
Code: 1



CODE 2: 

CODE 2:





Problem statement 2: Problem Statement 2: Signal Masking and Unmasking for Graceful Shutdown

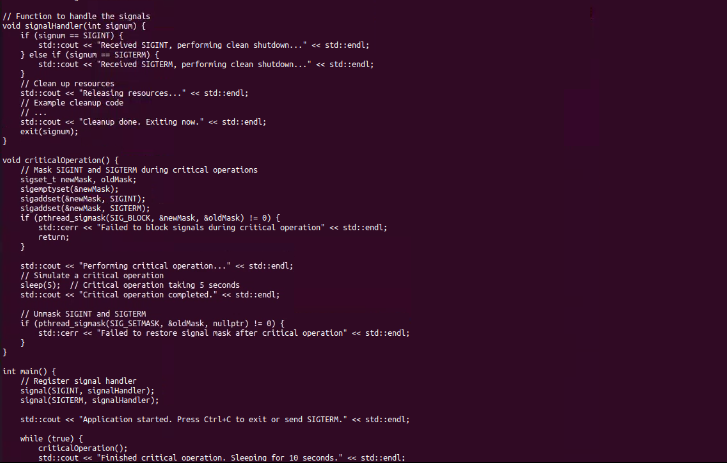
Problem: Develop a C++ application that gracefully handles termination signals (e.g., SIGTERM, SIGINT) by masking specific signals during critical operations and unmasking them afterwards. Implement a clean shutdown procedure that ensures all resources are released before the process exits.

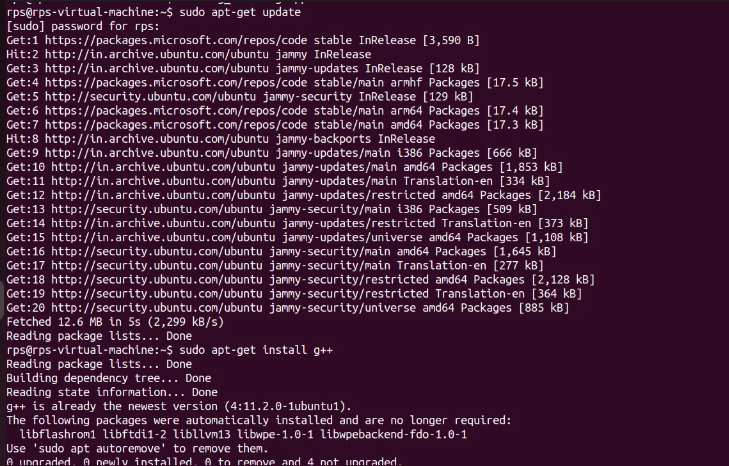
Key Challenges:

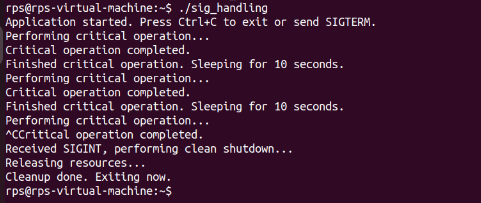
Determining the appropriate signals to mask during critical operations.

Ensuring timely unmasking of signals to avoid process hangs.

Implementing a robust shutdown mechanism that handles unexpected interruptions.







Problem Statement 3: Signal Masking and Unmasking for Error Handling

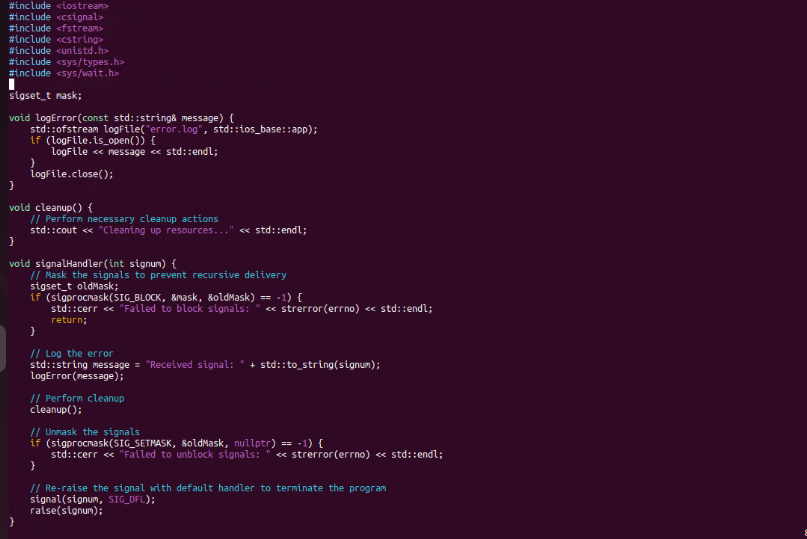
Problem: Create a C++ application that uses signal masking and unmasking to handle errors gracefully. Mask specific signals during error handling routines to prevent recursive signal delivery. Implement a mechanism to log error details and perform necessary cleanup actions before re-enabling the masked signals.

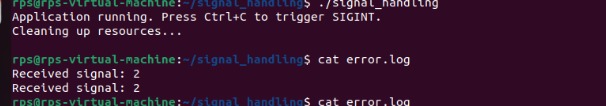
Key Challenges:

Identifying the appropriate signals to mask during error handling.

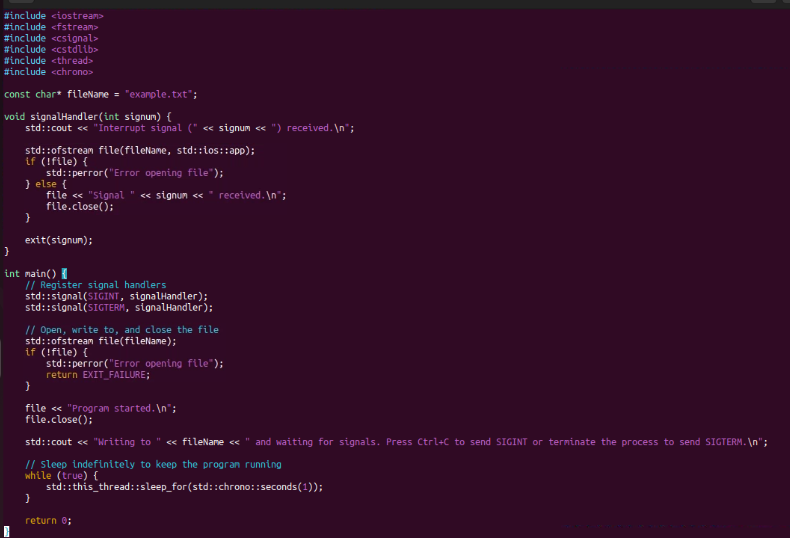
Preventing infinite recursion of signal handlers.

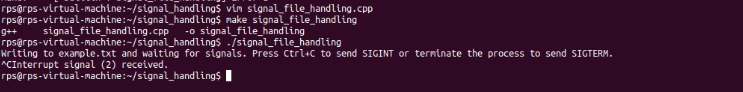
Ensuring proper error logging and resource cleanup.





Code:





Code:

