Rastreeya Sikshana Samithi Trust
RV COLLEGE OF ENGINEERING
DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

OPERATING SYSTEM
KERNEL IMPLEMENTATION

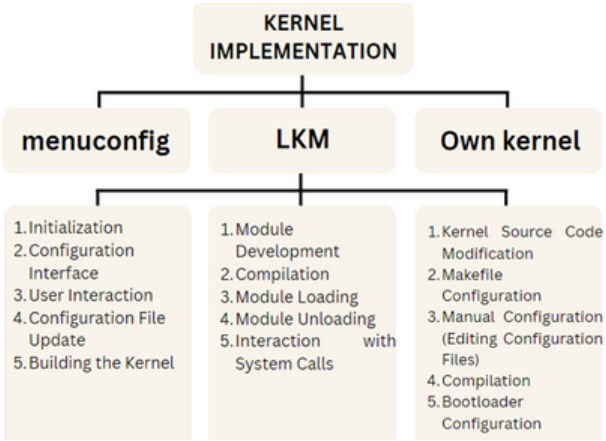
INTRODUCTION

- The kernel serves as the core mediator between hardware and software layers, essential for system operation.
- Kernel components like process management, memory allocation, device drivers, filesystem support, and networking ensure system stability and efficiency.
- Process management oversees task creation, scheduling, and termination, optimizing resource utilization.
- Memory management handles memory allocation and virtual memory paging, ensuring system stability.
- Device drivers, filesystem support, and networking enable seamless communication between the OS and hardware, facilitating data transfer and device control.

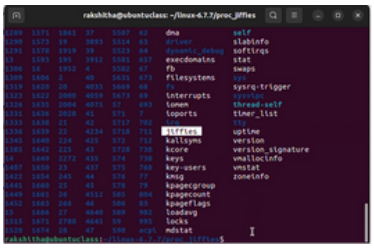
TYPES OF KERNEL IMPLEMENTATION

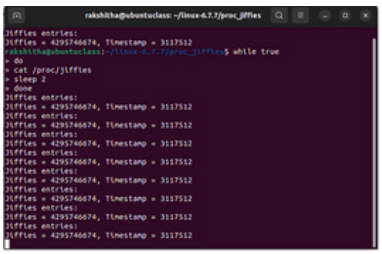
- Menuconfig Configuration
- Manual Configuration (Editing Configuration Files)
- Loadable Kernel Module (LKM) Development
- Building from Scratch
- Modular Kernel Configuration
- Cross-Compilation
- Embedded Kernel Development

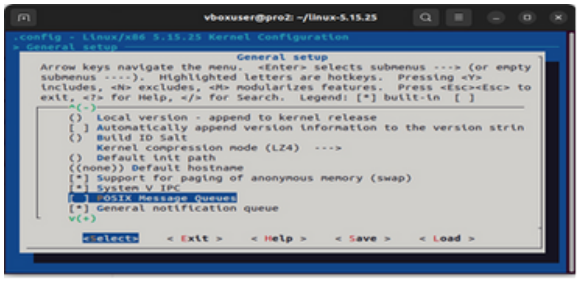
METHODOLOGY

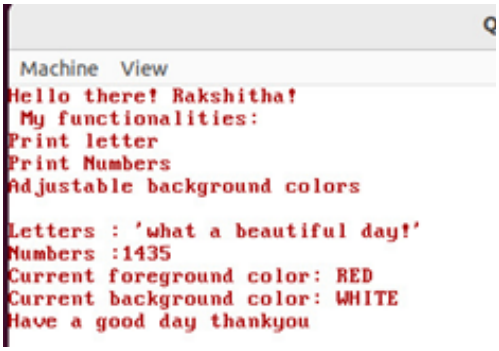


RESULT









CONCLUSION

In summary, menuconfig simplifies kernel customization for beginners, loadable kernel modules offer flexible feature adjustments, and building from scratch provides a deeper understanding of kernel mechanics.

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