# Kernel in C

Introduction : The introduction sets the stage for an exploration into kernel development, emphasizing the significance of foundational principles and the timeless appeal of classic arcade games. It highlights the transformative potential of Pong game development within the kernel environment, offering insights into game design, programming logic, and user experience considerations. By embracing the spirit of creativity and innovation, developers embark on a journey that celebrates the legacy of gaming icons while laying the groundwork for new adventures in the dynamic landscape of kernel development.

## Boot Loader (Hello World):

A "Hello World" bootloader serves as a basic introduction to bootloader development, typically displaying a simple message on the screen during system boot-up. Alright, writing a kernel from scratch is to print something on screen.
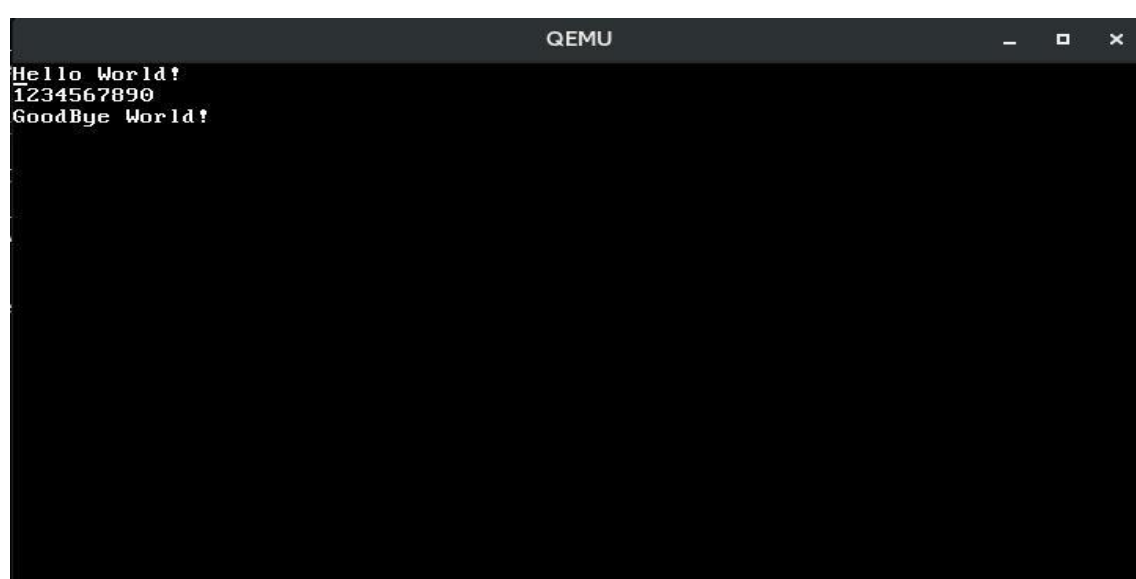
Pong Game : Developing a Pong game within the QEMU environment merges game development with kernel emulation, offering a unique platform for experimentation. QEMU's emulation capabilities simulate hardware environments, allowing developers to test their game directly within a virtual machine. This integration streamlines the development process, enabling rapid iteration and testing cycles to refine gameplay mechanics and features efficiently. By leveraging QEMU's support for CPU emulation, memory management, and device simulation, developers can ensure compatibility across various virtual hardware configurations, enhancing the game's accessibility and reach.
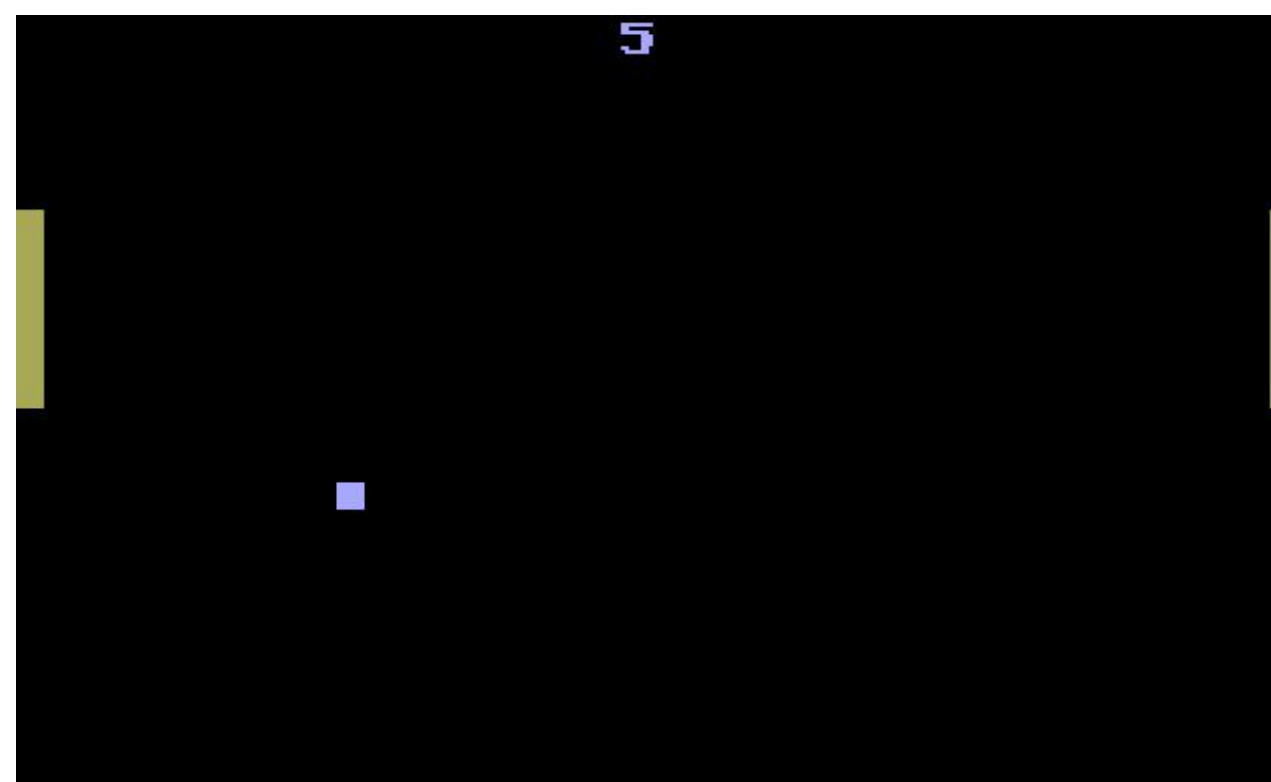
Calculator: Developing an x86 calculator within QEMU blends low-level programming with kernel emulation, providing a platform for efficient testing and iteration. By leveraging QEMU's emulation capabilities, developers can simulate the x86 architecture and test the calculator program directly within a virtual environment. This integration streamlines development, enabling rapid debugging and refinement of features. With support for CPU emulation and debugging tools like GDB, QEMU offers real-time insight into calculator logic, driving innovation in both low-level programming and kernel emulation fields.
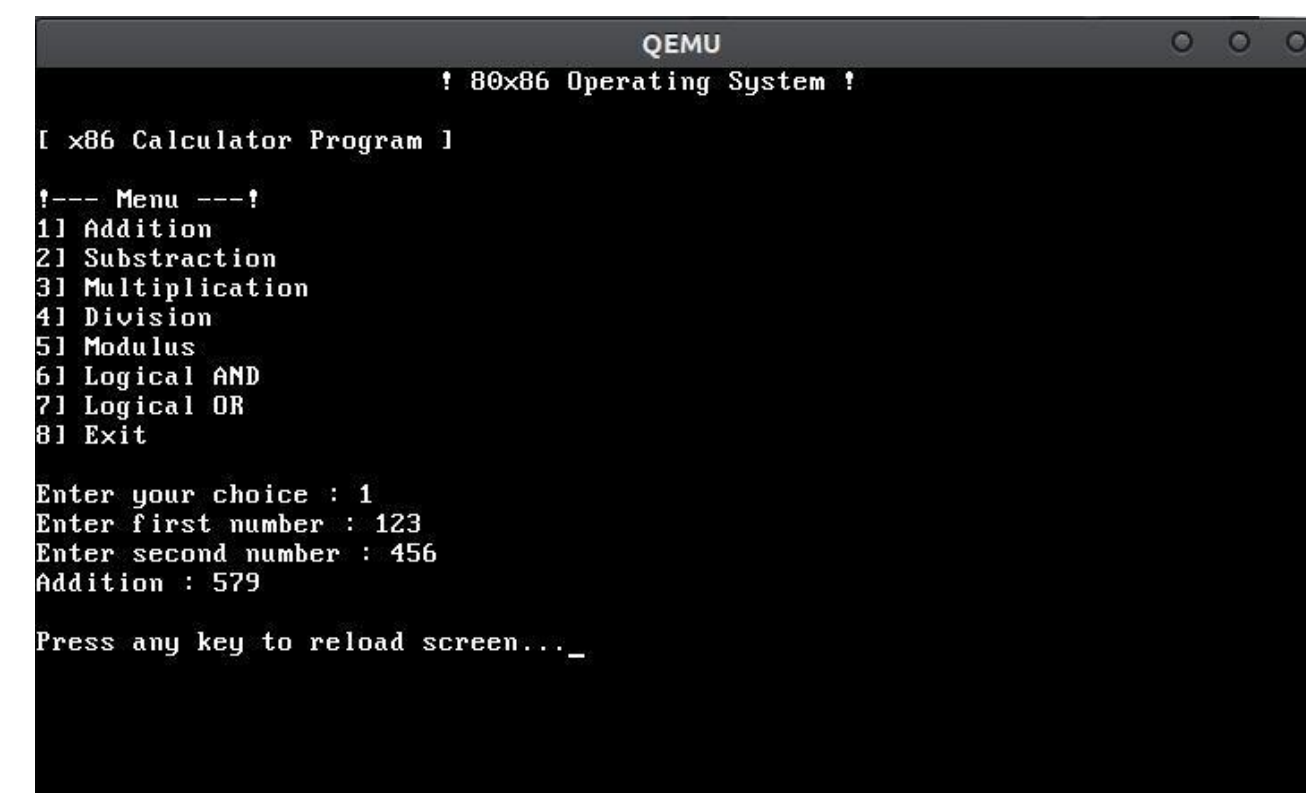
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Acknowledgement

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