WriteUp

In this Assignment I'm implementing a bootloader which first loads in 16 bit then switches to 32bit (protected mode) and prints the Hello World message and value of the CR0 register.

Working

First the code boots in the 16bit which is in [BITS 16] which is nothing but used to tell assembler that code is in 16bit.
Then after the booting in 16 bit it will jump on to 32 bit mode using the gdt.
Then Bios moves to 512byte with memory address as well.
Bootloader also switches from 16 to 32 bit protected mode and then it simply prints the “Hello World” and lastly it adds the boot signature.