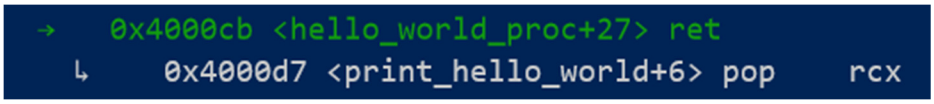
When a subroutine is called, the address of the next instruction is saved into the stack

When ret is executed, the next instruction is executed which is pop rcx which has been saved to the stack



When pop is executed, rsp increases by 8 bytes since it is a 64 bit executable

Before pop is executed

After pop is executed

Before loop is executed

After loop is executed

Counter is 0:

Program will not loop