**Embedded System Diploma Online**

**Lab 2 Report**

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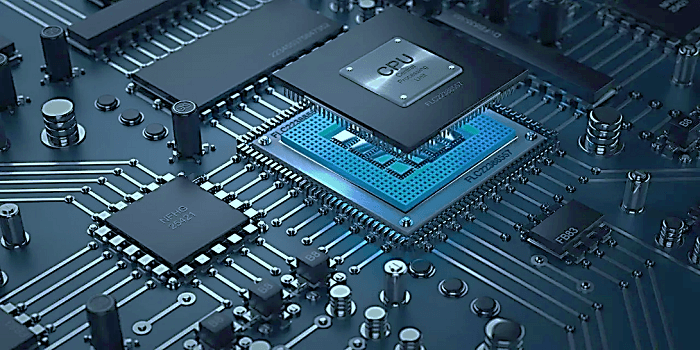


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# Steps

1. Create and implement app.c
2. Create and implement uart.h
3. Create and implement uart.c
4. Create and implement startup.s
5. Convert all c files (.c) to object files (.o)
6. Write linker script (.ld)
7. Apply linker script to all object files (.o) to get (.elf) file
8. Convert (.elf) file that contains debugging information to (.bin) file that doesn’t contain debugging information
9. Run the binary (.bin) on the board using Qemu simulator

# Commands

**Convert all c files (.c) to object files (.o)**



**Apply linker script to all object files (.o) to get .elf file**

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**Convert (.elf) file to (.bin) file**

****

**Run the binary (.bin) on the board using Qemu simulator**

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# Output from Qemu



# Specs

Entry point of processor is: 0x10000

To Activate UART0 you just write on UART0DR register (32bit)

And its address is :0x101f1000

# Code

## app.c

A computer screen shot of a code

Description automatically generated

## uart.c

A computer code on a black background

Description automatically generated

## uart.h

A black background with white text

Description automatically generated

## startup.s

A screen shot of a computer program

Description automatically generated

Linker\_script.ld**A screen shot of a computer program

Description automatically generated**

# Object files sections

## app.o

**A screen shot of a computer

Description automatically generated**

## uart.o

**A computer screen shot of a black screen

Description automatically generated**

## startup.o

**A screen shot of a computer

Description automatically generated**