CELIA-E

C PROGRAMMING GUIDE

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Overview

Writing and building a simple "Hello, World!" program on a Debian system running on CELIA-E board involves a few easy steps listed in this document.

Setting up Debian Environment for C

GCC is the compiler tool for compiling C programs. GCC is already installed as part of the Debian image that is supplied with CELIA-E. So, there is no need for any special setup of the tools.

Writing a C Program

Open a Debian console (either through the serial cable connection or from ethernet). Create a new file called hello.c using any Linux text editor of choice. In this example, nano editor is used for simplicity. Nano is part of the Debian image that is supplied with CELIA-E.

nano hello.c

Type the following C code into hello.c:

```
#include <stdio.h>

int main()
{
   printf("Hello, World!\n");
   return 0;
}
```

Save the file and exit the editor (for nano, press Ctrl+X, then Y, then Enter).

Compiling the Program

Use GCC to compile the hello.c file into an executable. In the terminal, run:

gcc -o hello hello.c

This command tells gcc to compile hello.c and output an executable named hello.

Running the Program

Now the compiled program can be executed:

./hello

The output will be:

Hello, World!

Full Workflow

Here's a summary of the entire workflow:

1. **Create hello.c**:

   nano hello.c

   Type the following code:

   ```
   #include <stdio.h>

   int main()
   {
      printf("Hello, World!\n");
      return 0;
   }
   ```

   Save and exit the editor.

2. **Compile the program**:

   gcc -o hello hello.c

3. **Run the program**:

   ./hello