Assignment 38: What is a #include preprocessor?

The #include preprocessor directive is used in C and C++ to include the contents of another file into the source code at the location where the #include directive appears. This is commonly used to include header files containing declarations of functions, constants, and types, among other things.

The syntax of the #include directive is:

```
#include <header_file>
```

- <header_file>: This form is used to include standard library header files. The angle brackets < > indicate that the file should be searched for in the standard system directories.
- "header_file": This form is used to include user-defined header files. The double quotes " " indicate that the file should be searched for in the current directory first, and then in other specified directories.

For example:

```
#include <stdio.h>    // Includes the standard input/output header file
#include "myheader.h"  // Includes a user-defined header file
```

When the preprocessor encounters an #include directive, it replaces it with the contents of the specified file. This allows the declarations and definitions in the included file to be visible and accessible to the rest of the code.