Open Book Pre-Test for UEFI BIOS Enablement

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# Introduction

Please feel free to use any online resource while answering the questions in this test. However, all answers should be your own, as they will be discussed in a subsequent interview, should you advance in the process.

## Question 1

Write a program in Python that when executed will prompt the user for text input and reply with the correct response as provided in the following table. The program should continue to prompt for input and reply with the appropriate response until an input value is provided that is not valid, i.e. not in the table. Please make all input case insensitive.

|  |  |
| --- | --- |
| Input | Output |
| Red | Green |
| Green | Black |
| Black | Blue |
| Blue | Yellow |
| Yellow | Red |
| White | Black |
| Purple | Green |

Attach your answer as a .py file.

## Question 2

Using C syntax (not C++), we need to setup an interface to be used like this:

MY\_INTERFACE \* mip;

MY\_BAR bar;

int Status;

InitMyInterface(&mip);

Status = mip->foo(&bar);

Where:

* MY\_BAR is a typedef for a structure with two members, both of type int.
* MY\_FOO (not listed directly in the example code) is a typedef for a function pointer for a function the takes a pointer to a structure typedef MY\_BAR and returns an int.
* MY\_INTERFACE is a typedef for a structure with one member, a function pointer of type MY\_FOO.

Please provide all the function, structure and variable declarations to the best of your ability given the available information. If you feel that required information is lacking, note the information lacking (in a comment) and provide your own answer so that you can complete the exercise.

Hint, this syntax is used heavily in the UEFI specification.

Attach your answer as an .h file.

## Question 3

Give the AND and OR masks to set the value 6 in bits 30:23 of a dword.

## Question 4

Explain how to use XOR for error correction.

## Question 5

Tell me about a time when you had new information and you had to help others understand it.