Name: Class:

**Task 1**

A photographer has a professional digital camera which has a fault. When they press the shutter, sometimes it doesn’t take a picture.

When they contact customer support they are told to update the firmware of the camera.

(a) Explain what firmware is.

(b) Once the photographer has finished a photoshoot, they transfer the photos to a PC. The photographer makes use of photo editing software to edit the photos.

Complete the table below to describe the various roles given in this process.

|  |  |
| --- | --- |
| **Component** | **Role in the photo editing process** |
| Application |  |
| Operating system |  |
| Firmware |  |
| Hardware |  |

Task 2

Match the terms on the left with their meanings on the right.

|  |  |  |
| --- | --- | --- |
| **Term** |  | **Meaning** |
| Interrupt |  | Generated when one program tries to access a memory location that is being used by another program. |
| Interrupt Service Routine (ISR) | Generated when a program needs to ask the operating system to do something for it. |
| Hardware interrupts | A signal that is sent to the CPU or operating system that causes it to stop what it is doing and process the signal. |
| Software interrupts | The lines that connect to the CPU and allow an interrupt signal to be sent. |
| Interrupt Request Lines (IRQ) | The instructions that will be executed when an interrupt is received. |
| Segmentation fault | Generated when a peripheral device needs the CPU to process something. |