Faculty of Science, Engineering and Technology



Computer Systems

Week 10

***PART 10.1:***

A computer screen with text and images

Description automatically generated **Question 10.1.1.a and 10.1.1.b:**

**Question 10.1.1.c: When you implemented drawpixel, what did you have to do with LR to make it work? Why?**

**-** When implementing the “drawpixel” function, handling the Link Register (LR) is important to ensure the program returns correctly to the calling function after “drawpixel” completes its execution

- To make the “drawpixel” function work correctly, I need to save the current value of the Link Register (LR) at the beginning of the function and restore it before returning. This ensures that the program can return to the correct location after the function is completed. This is necessary because:

+ Preserving the Return Address: When a function is called, the return address is stored in LR. If I call another function within “drawpixel” without saving LR, the return address will be overwritten. This would cause the program to return to the wrong place or crash

+ Ensuring Correct Program Flow: By saving and restoring LR, I can ensure that after “drawpixel” completes, the program can continue exceuting from the correct location, maintaining the intended flow of the program.

A screenshot of a computer

Description automatically generated **Question 10.1.2:**

**Question 10.1.3:**

A screenshot of a computer

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