

3 A student has a computer.

- (a)** The computer is designed using the Von Neumann model for a computer system.

Complete the table by describing the purpose of each of the given registers.

| Register | Purpose |
|-------------------------------|-------------------------|
| Program Counter (PC) | |
| Memory Address Register (MAR) | |
| Memory Data Register (MDR) | |
| Index Register (IX) | |

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- (b)** The student needs to connect the computer to a monitor that has a screen resolution of 2560×1600 pixels. The monitor also has built-in speakers.

The computer has a Video Graphics Array (VGA) port and a High Definition Multimedia Interface (HDMI) port.

Explain the benefits of connecting the monitor to the computer using the HDMI port instead of the VGA port.

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- (c)** The computer has an Operating System (OS). One of the key management tasks of the OS is process management.

Describe the process management tasks performed by an OS.

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