**Question 4**

A program *interrupt* refers to the transfer of program control from a currently running program to another service program as a result of an external or internal generated request.

There are mainly three types of *interrupts*:

1. External interrupts: It arises due to external call from I/O devices. For e.g. I/O devices requesting transfer of data, power failure, etc.
2. Internal interrupts: It arises due to illegal and erroneous use of an instruction or data. For e.g. stack overflow, division by zero, invalid opcode, etc. These are also called *traps*.
3. Software interrupts: It is initiated by executing an instruction. It can be used by the programmer to initiate an interrupt at the desired point in the program.

External and internal interrupts are initiated from signals that occur in the hardware of the CPU whereas Software interrupts occur from the instructions.

**Common Function of Interrupts**

* Interrupt transfer control to the interrupt service routine generally, through the interrupt vector, which contains the addresses of all the service routines.
* Interrupt architecture must save the address of the interrupted instruction.
* Incoming interrupts are disabled while another interrupt is being processed to prevent a lost interrupt.
* An operating system is interrupt driven.
* A trap is a software-generated interrupt caused either by an error(for example divide by zero or invalid memory access) or a user request.

**Question 5**

<https://techdifferences.com/difference-between-interrupt-and-polling-in-os.html>