Operating Systems

(a) Modern computers store data in a variety of “memories”, each with differing size and access speeds. Briefly describe each of the following:

(i) cache memory; [2 marks]
(ii) main memory; [2 marks]
(iii) registers. [2 marks]

(b) Give an example situation in which operating systems effectively consider disk storage to be a fourth type of “memory”. [2 marks]

(c) A researcher proposes using fast non-volatile memory for all data, rather than using the four separate kinds of “memory” mentioned above. Comment on the pros and cons of this approach. [2 marks]