8 Introduction to Computer Architecture (swm11)

(a) Why are modern systems-on-chip (SoC) heterogeneous (i.e. contain a range of different processor cores)? [4 marks]

(b) What is the von Neumann bottleneck and to what extent do modern SoCs suffer from it? [4 marks]

(c) How is virtual memory used to provide isolation between applications? [4 marks]

(d) How do GPUs hide memory access latency? [4 marks]

(e) Why is conditional program flow control managed differently on GPUs and CPUs? [4 marks]