

淡江大學九十三年學年度轉學生招生考試試題 44-1

系別：資訊工程學系三年級

科目：資訊概論

准帶項目請打「○」否則打「×」	
×	簡單型計算機

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1. The IEEE standard single-precision floating -point operand format consists of 32 bits. The sign occupies 1 bit, the exponent has 8 bits, and the fraction occupies 23 bits. The exponent bias is 127 and the base is 2. There is an implied bit to the left of the binary point in the fraction. Using the IEEE format described above to
 - (a) code the floating number -0.1 ; (10%)
 - (b) decode the bit pattern represented by the hexadecimal notation 3DCCCCD. (10%)

2. Explain an important use for the test-and-set instruction found in many machine languages. (10%) Why is it important for the entire test-and-set process to be implemented as a single instruction? (10%)

3. In recent years, UML has been made to become a standard notational system for representing object-oriented designs.
 - (a) What is UML? (10%)
 - (b) What is the difference between a class diagram and a collaboration diagram? (10%)

4. Design a procedure to print a linked list in reverse order by
 - (a) using a stack as an auxiliary storage structure; (10%)
 - (b) using a recursive solution. (10%)

5. Describe the differences between microinstruction, machine instruction and assembly instruction. (20%)