The questions on this worksheet have been taken from the OCR A-Level Computer Science Practice Paper 1.1

"3-a-day" A-Level Exam Practice Unit 1 (019)

Question 1

The following is a program written using the Little Man Computer instruction set.

```
start   LDA   one
        OUT
        LDA   zero
        OUT
        LDA   count
        SUB   one
        STA   count
        BRP   start
        HLT
one     DAT   1
zero    DAT   0
count   DAT   3
```

(a) Describe the difference between the STA and LDA instructions.

....

....

....

....

....**[2]**

Question 2

(b) Identify the type of memory addressing the program uses.

....

....**[1]**

Question3

(c) State the output this program generates.

....

....

....

....

....

....

....**[3]**

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Answer 1		
- STA store the value in the accumulator into a given memory location - LDA loads the value in a memory location into the accumulator. (1 per -)	**AO1.2** **2**	

Answer 2		
Direct addressing	**AO1.2**	Accept Symbolic Addressing

Answer 3		
- Answer contains at least 1 followed by 0 - Answer contains at least three 10s - Answer contains exactly four 10s (1 per -)	**AO3.3** **3**	1 0 1 0 1 0 1 0 NB allow answers that are vertical or horizontal.