



A-level

COMPUTER SCIENCE

Paper 1

7517/1

Insert

**FIGURE 1 for use in answering
Question 1**

**FIGURE 2 for use in answering
Question 2**

**FIGURE 4 for use in answering
Question 3**

**FIGURE 5 for use in answering
Question 3**

**FIGURE 6 for use in answering
Question 3.**

[Turn over]

FIGURE 1

PROCEDURE BubbleSort (L)

 N ← LEN(L) - 2

 Count1 ← 0

 WHILE Count1 < LEN(L) - 1

 FOR Count2 ← 0 TO N

 IF L[Count2] > L[Count2 + 1] THEN

 Temp ← L[Count2]

 L[Count2] ← L[Count2 + 1]

 L[Count2 + 1] ← Temp

 ENDIF

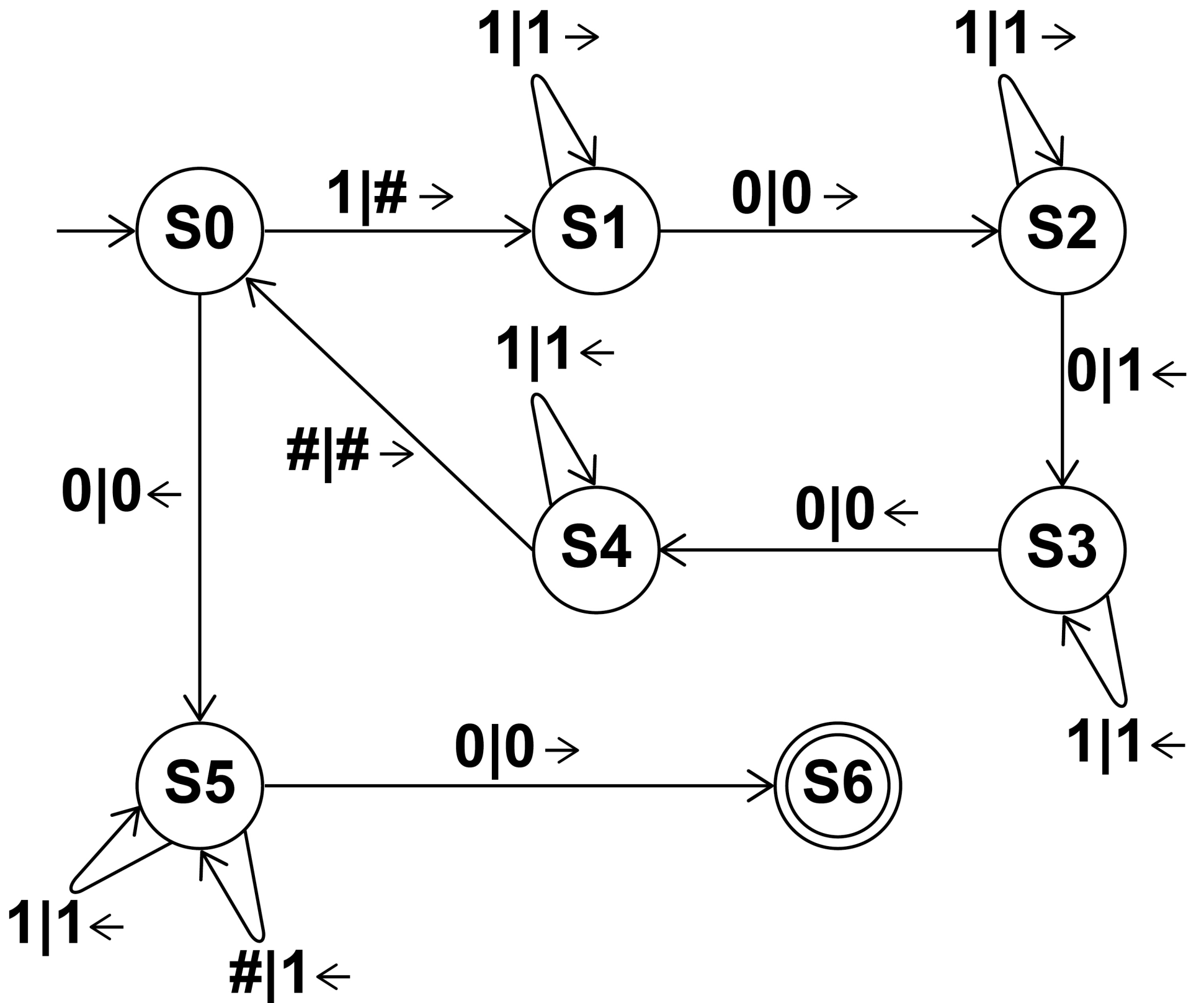
 ENDFOR

 Count1 ← Count1 + 1

 ENDWHILE

ENDPROCEDURE

FIGURE 2



[Turn over]

FIGURE 4

| | | | |
|----------|----------|----------|----------|
| C | | | B |
| | | A | |
| | B | | |
| | | | A |

FIGURE 5

| | | | |
|-----------|-----------|-----------|-----------|
| 0 | 1 | 2 | 3 |
| 4 | 5 | 6 | 7 |
| 8 | 9 | 10 | 11 |
| 12 | 13 | 14 | 15 |

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FIGURE 6

| | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 |
|---|---|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|
| 0 | | | | | | | | | | | | | | | | |
| 1 | | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 2 | | | 1 | 1 | 1 | 0 | 1 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 |
| 3 | | | | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 |
| 4 | | | | | 0 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 5 | | | | | | 1 | 1 | 1 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 |
| 6 | | | | | | | 1 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 |
| 7 | | | | | | | | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 8 | | | | | | | | | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |

| | | | | | | | | |
|----|--|---|---|---|---|---|---|---|
| 9 | | 1 | 1 | 1 | 1 | 1 | 0 | 0 |
| 10 | | 1 | 0 | 0 | 0 | 1 | 1 | 1 |
| 11 | | | 0 | 0 | 0 | 1 | 1 | 1 |
| 12 | | | | | 1 | 1 | 1 | 1 |
| 13 | | | | | | 1 | 1 | 1 |
| 14 | | | | | | | | 1 |
| 15 | | | | | | | | |

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