Writing Assignment 1

Introduction to Computer Science

1a) 32 different patterns

1b) 255 is the largest number that can be stored in 8 bits.

2a) 3

2b) 27

2c) 472

2d) 15

3a) (A && B) ll C

A B C A && B (A && B) ll C

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| T | T | T | T | T |
| T | T | F | T | T |
| T | F | T | F | T |
| T | F | F | F | F |
| F | T | T | F | T |
| F | T | F | F | F |
| F | F | T | F | T |
| F | F | F | F | F |

3b) (!A && B)

A B !A !A && B

|  |  |  |  |
| --- | --- | --- | --- |
| T | T | F | F |
| T | F | F | F |
| F | T | T | T |
| F | F | T | F |

3c) (A && B) ll (B && C)

A B C A && B B && C (A && B) ll (B && C)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| T | T | T | T | T | T |
| T | T | F | T | F | T |
| T | F | T | F | F | F |
| T | F | F | F | F | F |
| F | T | T | F | T | T |
| F | T | F | F | F | F |
| F | F | T | F | F | F |
| F | F | F | F | F | F |

3d) !(A ll B) && (A ll C)

A B C A ll B !A ll B A ll C !(A ll B) && (A ll C)

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| T | T | T | T | F | T | F |
| T | T | F | T | F | T | F |
| T | F | T | T | F | T | F |
| T | F | F | T | F | T | F |
| F | T | T | T | F | T | F |
| F | T | F | T | F | F | F |
| F | F | T | F | T | T | T |
| F | F | F | F | T | F | F |