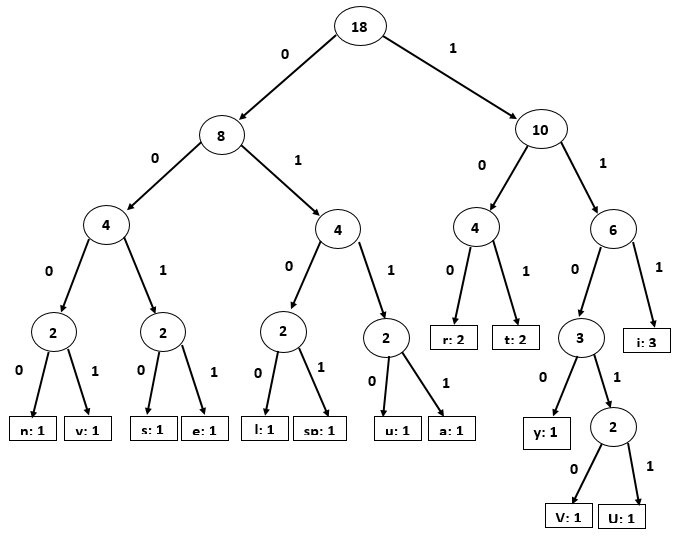
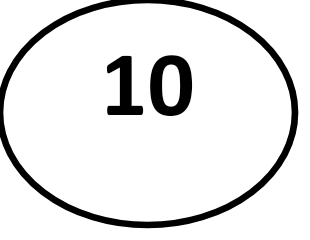
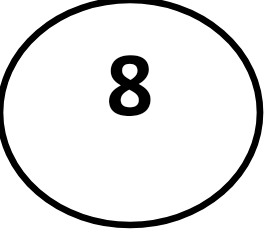
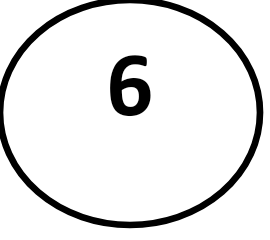
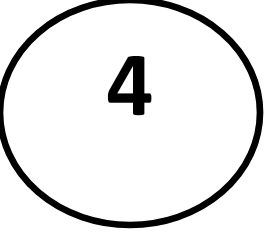
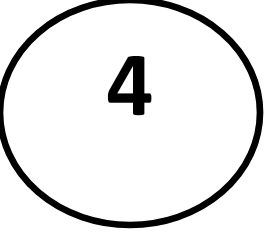
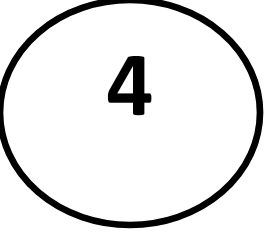
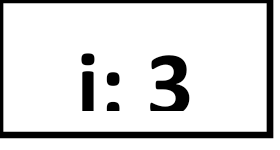
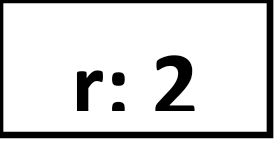
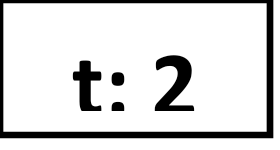
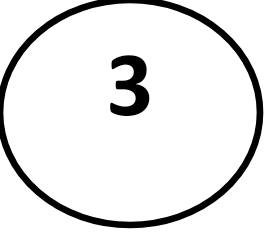
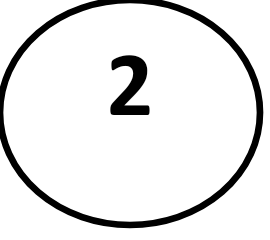
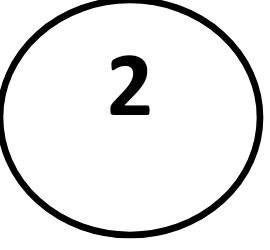
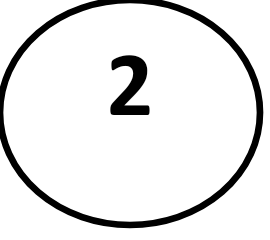
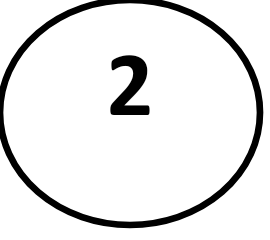
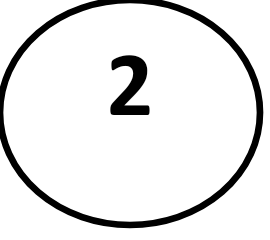
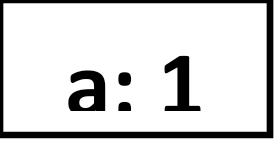
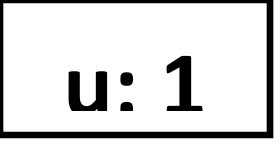
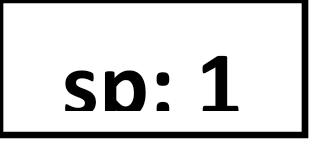
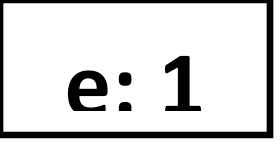
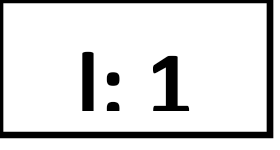
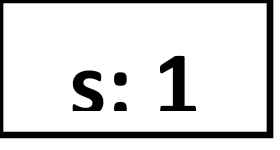
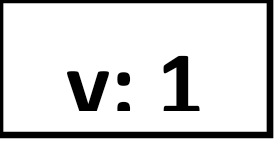
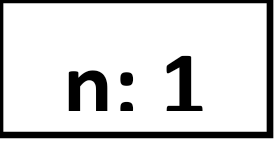
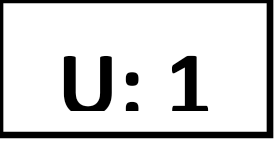
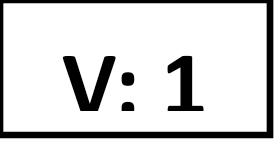
**CS301 SOLUTION:**

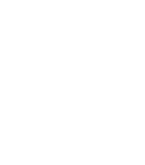
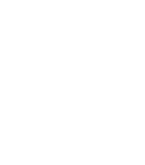
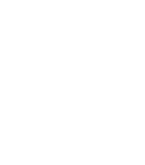
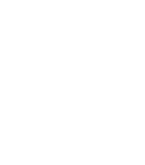
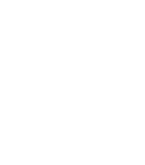
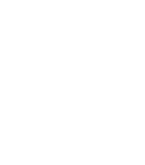
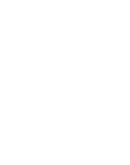
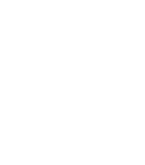
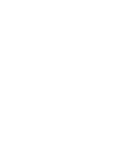
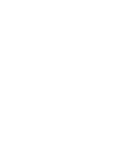
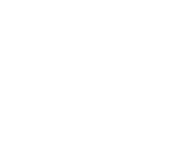
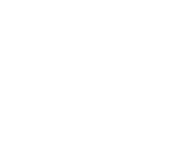
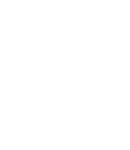
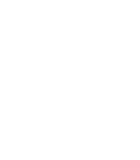
**Text Message = “Virtual University”**

Total No. of Letters are 18

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Letters** | **Frequency** | **Original bits** | | **Encoding bits** | |
| **ASCII** | **Binary** |
| **V** | 1 | 86 | 01010110 | 11010 | 5\*1 = 5 |
| **i** | 3 | 105 | 01101001 | 111 | 3\*3 = 9 |
| **r** | 2 | 114 | 01110010 | 100 | 3\*2 = 6 |
| **t** | 2 | 116 | 01110100 | 101 | 3\*2 = 6 |
| **u** | 1 | 117 | 01110101 | 0110 | 4\*1 = 4 |
| **a** | 1 | 97 | 01100001 | 0111 | 4\*1 = 4 |
| **l** | 1 | 108 | 01101100 | 0100 | 4\*1 = 4 |
| **space** | 1 | 32 | 00100000 | 0101 | 4\*1 = 4 |
| **U** | 1 | 85 | 01010101 | 11011 | 5\*1 = 5 |
| **n** | 1 | 110 | 01101110 | 0000 | 4\*1 = 4 |
| **v** | 1 | 118 | 01110110 | 0001 | 4\*1 = 4 |
| **e** | 1 | 101 | 01100101 | 0011 | 4\*1 = 4 |
| **s** | 1 | 115 | 01110011 | 0010 | 4\*1 = 4 |
| **y** | 1 | 121 | 01111001 | 1100 | 4\*1 = 4 |

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**l Original bits = 18\*8 = 144**

**Total Encoding bit’s = 67**

**53.47% bit’s memory saved with the help of Huffman Encoding**