Tyler Burleson

CSCI 3400

**P1:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 1 | 1 | 1 | 0 | 1 |
| 0 | 1 | 1 | 0 | 0 |
| 1 | 0 | 0 | 1 | 0 |
| 1 | 1 | 0 | 1 | 1 |
| 1 | 1 | 0 | 0 | 0 |

**P2:**



|  |  |  |  |
| --- | --- | --- | --- |
| 11101 | 0 | 1**0**101 | 0 |
| 10110 | 1 | 10110 | 1 |
| 10001 | 0 | 10001 | 0 |
| 10001 | 1 | 1**1**001 | 1 |

**P3:**ASCII Networking: 078 101 116 119 11 114 107 105 110 103

Binary: 0100 1110 0110 0101 0111 0100 0111 0110 1111 0111 0010 0110 1011 0110 1001 0110 1110 0110 0111

**P4:  
A:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **1=0001** | **2=0010** | **3=0011** | **4=0100** | **5=0101** |
| **6=0110** | **7=0111** | **8=1000** | **9=1001** | **10=1010** |

**B:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **B=66** | **C=67** | **D=68** | **E=69** | **F=70** |
| **G=71** | **H=72** | **I=73** | **J=74** | **K=75** |

**C:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **A=98** | **B=99** | **C=100** | **D=101** | **E=102** |
| **F=103** | **G=104** | **H=105** | **I=106** | **J=107** |

**P5 & P6:**10101010100000/10011 **R=0100**10010101010000/10011 **R=0000**01011010100000/10011 **R=1111**  
10101000000000/10011 **R=1001**

**P7:  
A:** A single bit error is K=D\*2r XOR R+2i. If G contains at least two 1’s then a single bit error can always be detected

**B:** If G has an even number of 1’s it can be divided by 11, but if not it can’t be divided.