Lab 2 – Number Conversions

Names: ­­­­­­­­­­­­­­­­\_Nathaniel Paulus\_\_, ­­­­­­­­­­­­­­­­\_Brett Barnett\_

Date: \_September 15, 2017\_

The purpose of this lab is to:

Learn how to convert numbers from one base to another base.

Using the Lecture 2a Slide 3.xlxs spreadsheet determine the decimal values for the min and max binary numbers.

|  |  |  |  |
| --- | --- | --- | --- |
| 5 Bit Binary Min | 00000 | Decimal value = | 0 |
| 5 Bit Binary Max | 11111 | Decimal value = | 31 |
| 8 Bin Binary Max | 11111111 | Decimal value = | 255 |
| 8 Bin Binary Min | 00000000 | Decimal value = | 0 |

Using the Lecture 2a Slide 5.xlxs spreadsheet determine what decimal value is equal to the maximum binary number for 6 and 7 bits.

|  |  |  |  |
| --- | --- | --- | --- |
| 6 Bit Binary Max | 111111 | Decimal value = | 63 |
| 7 Bit Binary Max | 1111111 | Decimal value = | 127 |

Using the Lecture 2a Slide 7.xlxs spreadsheet determine what decimal values are equal to for the minimum and maximum binary numbers.

|  |  |  |  |
| --- | --- | --- | --- |
| Min Decimal No | 0 | Binary value = | 00000 |
| Max Decimal No | 31 | Binary value = | 11111 |

Using the Lecture 2a Slide 9.xlxs spreadsheet determine what decimal values are equal to for the minimum and maximum binary numbers.

|  |  |  |  |
| --- | --- | --- | --- |
| Min Decimal No | 0 | Binary value = | 000000 |
| Max Decimal No | 63 | Binary value = | 111111 |

Using the Lecture 2a Slide 12.xlxs spreadsheet determine what hexadecimal value are equal to for the minimum and maximum decimal numbers.

|  |  |  |  |
| --- | --- | --- | --- |
| Min Hexadecimal No | 0 | Decimal value = | 0 |
| Max Hexadecimal No | FFF | Decimal value = | 4095 |

Using the Lecture 2a Slide 14.xlxs spreadsheet determine what decimal value produces a value of the following values.

|  |  |
| --- | --- |
| Hexadecimal | Decimal |
| 000 | 0 |
| 03F | 63 |
| 07F | 127 |
| 0FF | 255 |
| FFF | 4095 |

Using the Lecture 2a Slide 18.xlxs spreadsheet determine what decimal value is equal to the maximum hexadecimal number and binary number.

|  |  |
| --- | --- |
| Max Decimal value = | 4095 |
| Hexadecimal value = | FFF |
| Binary value = | 111111111111 |

Observations:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_