## Thursday, April 25, 2019

 Agenda- Journal Intro
- Hexadecimal Numbering System
- what?
- why?
- how?
- MC Questions from Mock Exam


## Journal Complete the following in your journal: <br> $16^{0}=1$ <br> $16^{1}=16$ <br> $16^{2}=256$ <br> $256=2^{? 8}$

- Journal Conclusion
- Work on Tasks


## Objectives

Content: I will convert between hexadecimal, binary and decimal representations of numbers. Social: I will participate in class activities.
Language: I will write in my journal about applications of hexadecimal numbering system.

## What is Hex decimal?

- How does it work?

| Binary | Decimal | Hexadecimal |
| :---: | :---: | :---: |
| 0000 | 0 | 0 |
| 0001 | 1 | 1 |
| 0010 | 2 | 2 |
| 0011 | 3 | 3 |
| 0100 | 4 | 4 |
| 0101 | 5 | 5 |
| 0110 | 6 | 6 |
| 0111 | 7 | 7 |
| 1000 | 8 | 8 |
| 1001 | 9 | 9 |
| 1010 | 10 | A |
| 1011 | 11 | B |
| 1100 | 12 | C |
| 1101 | 13 | D |
| 1110 | 14 | E |
| 1111 | 15 | F |

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Why Hexadecimal?

| Space <br> Less | Colors <br> 1111 | $F$ |
| :---: | :---: | :---: |
| https://jumk.de/color- |  |  |
| Time |  | 12 decimal |
| less |  | $1 F<F \mid$ |
|  | 20 |  |
|  |  | 21 |

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$$
\begin{aligned}
& \text { Binary to Hexadecimal } \\
& \text { - How does it work? }
\end{aligned}
$$

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## Decimal to Hex



| Binary | Decimal | Hexadecimal |
| :---: | :---: | :---: |
| 0000 | 0 | 0 |
| 0001 | 1 | 1 |
| 0010 | 2 | 2 |
| 0011 | 3 | 3 |
| 0100 | 4 | 4 |
| 0101 | 5 | 5 |
| 0110 | 6 | 6 |
| 0111 | 7 | 7 |
| 1000 | 8 | 8 |
| 1001 | 9 | 9 |
| 1010 | 10 | A |
| 1011 | 11 | B |
| 1100 | 12 | C |
| 1101 | 13 | D |
| 1110 | 14 | E |
| 1111 | 15 | F |

## Hex to Decimal

$$
\begin{gathered}
A{ }_{7}^{7} \\
10 \times 16^{\prime}+\times 16^{0} \\
160+7=167
\end{gathered}
$$

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## Closing Journal Entry

## Explain at least 3 applications of the hexadecimal numbering system.



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## Submit Tasks

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