**Instructions:**

**This handout is just for practice. It is the responsibility of the student to attend class to mark their own work in class when your professor takes up this exercise. You are NOT required to hand this practice sheet into your professor (keep it for future practice).  
  
The answers to this handout will NOT be posted or emailed to students.**

1. List the **number of digits** for the following numbering systems:
   * **Decimal**
   * **Binary**
   * **Octal**
   * **Hexadecimal**
2. Write a simple chart to show which values are represented for letter **A - F**   
   for a hexadecimal number.
3. How many **binary** digits does 1 *octal* digit represent?
4. How many **binary** digits does 1 *hexadecimal* digit represent?
5. Use manual numbering conversion to complete the table displayed below.A screenshot of a cell phone

   Description automatically generated
6. Write the **chmod** command (using the *symbolic* method) to set “**pass-through**” permissions (eg. **r w x - - x - - x**) for your **home** directory using an **absolute pathname**.  
   Also, write a Linux command to verify that permissions where set.
7. Perform a binary to octal numbering conversion for the permissions: **r w x - - x - - x** Write single Linux command to set “**pass-through**” permissions for your **home** directory but use the **absolute method** (i.e. **octal** numbers).
8. Write a single Linux command to **add read permissions** for **same group members** for the **~/tests** directory. Use the *symbolic* method.
9. Write a single Linux command to **remove** **write permissions** for **same group members**  
   and **other group members** for the **~/projects** directory. Use the *symbolic* method.
10. Write a single Linux command to set the permissions for the **~/assignments** directory  
    to the following using the **absolute** method (i.e. octal numbers): **r w x r - x - - x**  
    **NOTE:** Show your work to perform a **binary** to **octal** conversion.
11. Assume that you just issued the command:  
    **chmod u=rwx,go=x ~/linux/content**  
    What would be the new permissions for the **~/linux/content** directory?
12. Assume that you just issued the commands:  
    **umask 077  
    mkdir mydir**  
    **touch mydir/myfile.txt**  
      
    What would be the permissions for those **newly created directory and regular file**?  
    (show your work)