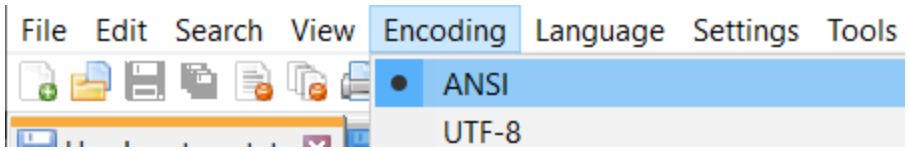
File Size Activity

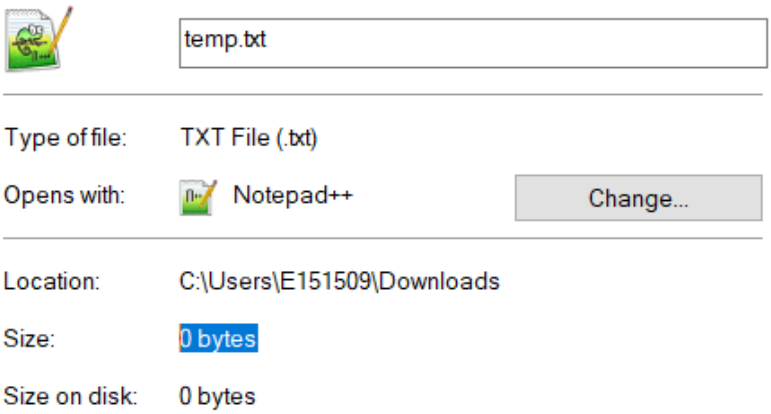
The questions you need to answer in BLEND are shown in **RED**.

1. Create & save an empty text file to your desktop or student drive
    - On **classroom PC** open **Notepad++**
        - use **File -> New** to create a new empty file
        - select **Encoding -> ANSI**



        - use **File -> Save as** to save this empty file to your computer

2. **Check the size of the file**.
    - In the **PC** browse to the file (i.e. find the file in File Explorer). **Right click** on the file and select **Properties .** We are interested in the size of the file in **bytes** (look at the **Size:** one and not the *Size on disk:* one), which right now should be 0.



3. Open the ASCII table for reference. In the BLEND **Google Doc (#1) enter the hex values** for the characters in **LASA Computer Science** with a single space between each character's hex value. The first three should be **4c 41 53 …**
   NOTE Don't forget to include the HEX value for the space characters between the words.
   NOTE2 If your browser window is too narrow you will not see the Description column of the ASCII table .

4. Create another empty file using Notepad++ and type **LASA Computer Science** (the actual words, not the hex codes) into the empty file. Save the file. Type just the characters shown in **purple** above.
   (#2) Record the size of the file now. Is the file size what you expected?

5. Using Notepad++**,** open the file you created above, put the cursor immediately after

LASA Computer Science and then press the **enter** and then the **tab** key. Save the file. **(#3) Record the size of the file again**. Is the file size what you expected?

6. Use the https://hexed.it/ website to open your text file and look at the hex content of the file (the one that has **LASA Computer Science** **enter** and **tab)**. **(#4) Enter the *names* of the last three characters of the file (use the name from the description column in** ASCII table**)?** If you have trouble finding the last three characters, see if you can find the hex values for the first three (4c 41 53) and then keep going until you get to the last three. NOTE: There should be more characters than just **LASA Computer Science.**
   Below is an example of the hex content of a text file that contains **Good luck finding the last three** (you can see all the characters in the red box and the last three in the blue box)..

```
file name: temp.txt
mime type:

0000-0010:  47 6f 6f 64-20 6c 75 63-6b 20 66 69-6e 64 69 6e  Good.luc k.findin
0000-0020:  67 20 74 68-65 20 6c 61-73 74 20 74-68 72 65 65  g.the.la st.three
```

UNICODE characters

Go to http://www.unicode.org/charts/ to see the Unicode table/charts.

7. Under the **Symbols and Punctuation** in the **Other Symbols** section you will find **Game Symbols**. Click on the **Chess, Checkers/Draughts** link
8. Find the characters for the 5 chess pieces below and write down their 4-digit hexadecimal code

Microsoft Word

Open **Microsoft Word** (make sure you are using the Microsoft App on the PC and not the web based one) and type the 5 hexadecimal numbers for the above chess pieces into **Microsoft Word** - all on one line ***with a single space between*** each of them.

9. Turn the hexadecimal Unicode into the actual Unicode character by highlighting just the hexadecimal digits of ***each*** character (*do not highlight the space behind the digits*) and then press the **Alt** and while still holding the **Alt** key down press the **x** key. Make the font size larger to better see the chess pieces.

Google Docs

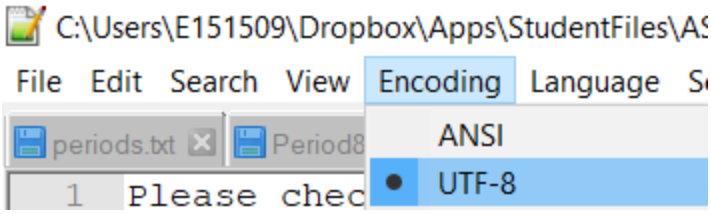
If you want to enter unicode characters in Google Docs

- use **Insert -> Special characters …**
- enter the hexadecimal code into the search box

Notepad++

Using Notepad++, create & save an empty text file to your desktop or student drive.

10. use **File -> New** to create a new empty file
11. select **Encoding -> UTF-8**



12. Highlight all the 5 chess piece characters at one time in **Microsoft Word** and then copy and paste them all into your empty **Notepad++** file. Save the file and **(#5) Record the size of the file**.

13. **(#6) Calculate the number of bytes of each chess piece (Remember spaces aren't part of the chess piece).**

Microsoft Words or Google Docs

14. **(#7) Enter the hexadecimal code for 5 interesting characters (no chess characters) that are NOT on the same Unicode page or in the same Unicode "neighborhood" as each other. The first two hex digits of your characters should not be the SAME as another's (i.e. if one character starts with 27 no other character should start with 27).** Do not choose characters that are on the keyboard. Make sure you choose Unicode characters that can actually display.
15. In Microsoft Word or Google Docs enter the actual unicode characters for the 5 interesting characters (make sure the font size is at least 36). BLEND is unable to show all unicode characters in your document so **(#8) paste a screenshot of your 5 characters** (see link if you don't know how to capture a part of your screen).