1. First, find the encoding range of the character you want to display in unicode
https://www.unicode.org/charts/

For example

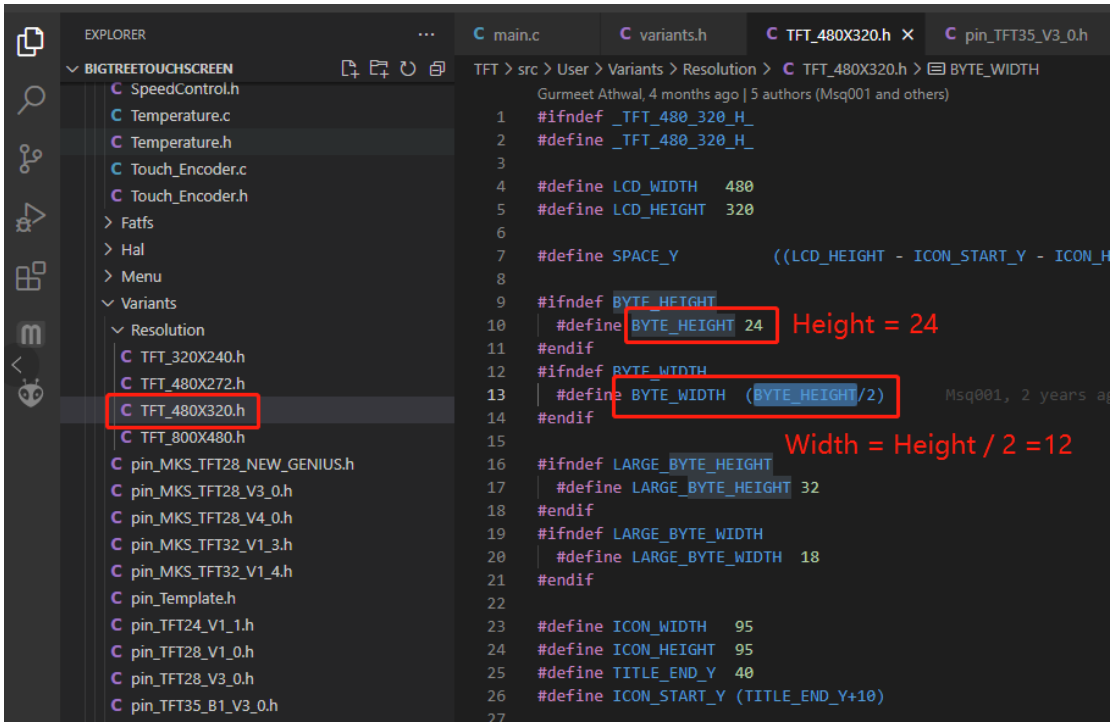
Basic Latin(ASCII) is 0x00~0x7F https://www.unicode.org/charts/PDF/U0000.pdf

Cyrillic(Russia) is 0x400~0x4FF https://www.unicode.org/charts/PDF/U0400.pdf

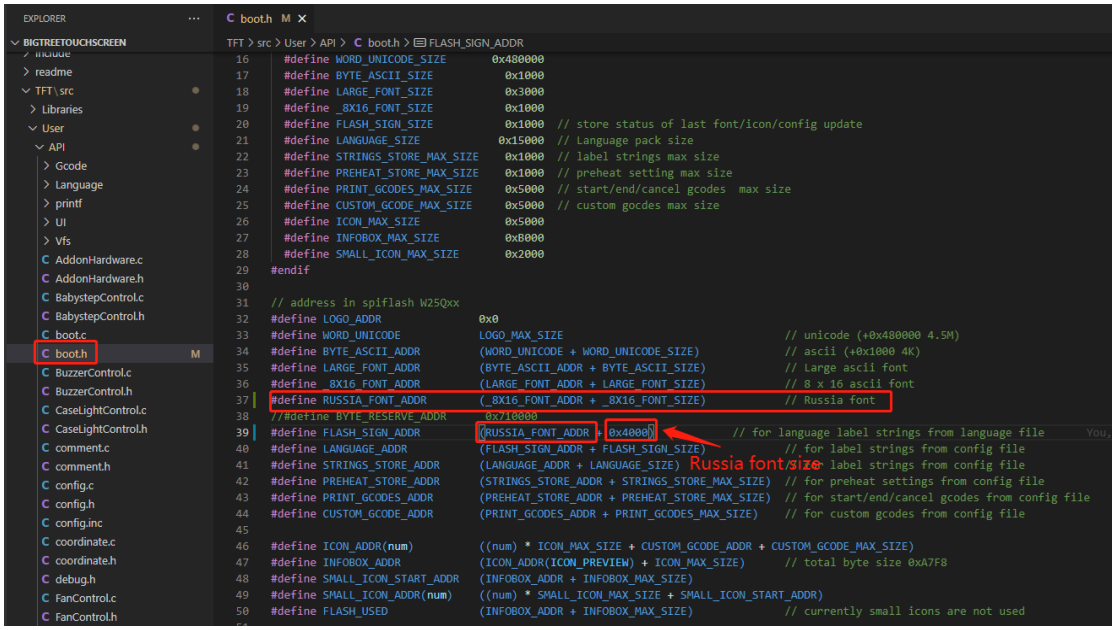
Armenian is 0x530~0x58F https://www.unicode.org/charts/PDF/U0530.pdf

Latin extended (Czech/French/etc…)

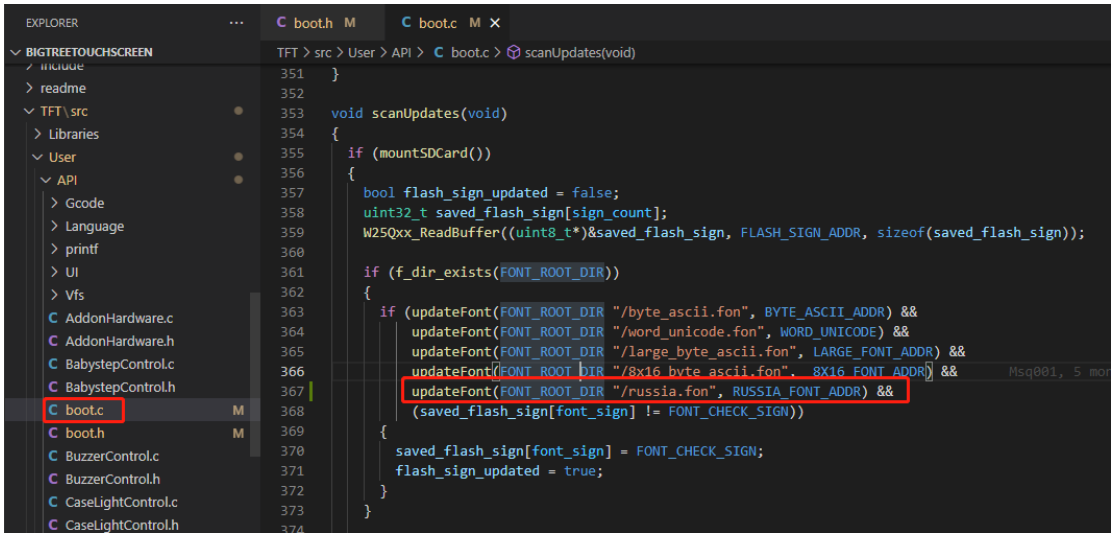
2. Let's take Russia as an example. You need to create a dot matrix font with all characters in Russia. The height of the font must be an integral multiple of 8, and the scanning method of font requires first from top to bottom, then from left to right, and the high position is first. The default size of the font is high*width: 24 * 12(TFT35 / TFT43 / TFT50 / TFT70), 16 * 8(TFT24 / TFT28), You can find the actual resolution of the screen in the header file corresponding to the screen. At present, there are four resolutions: 320 x 240 (TFT24 / TFT28), 480 x 272 (TFT 43 / TFT 50), 480 x 320 (TFT 35), 800 x 480 (TFT70), and then modify the font size in the resolution header file. For example, we use TFT35 to find the 480 x 320 header file to modify the font size.



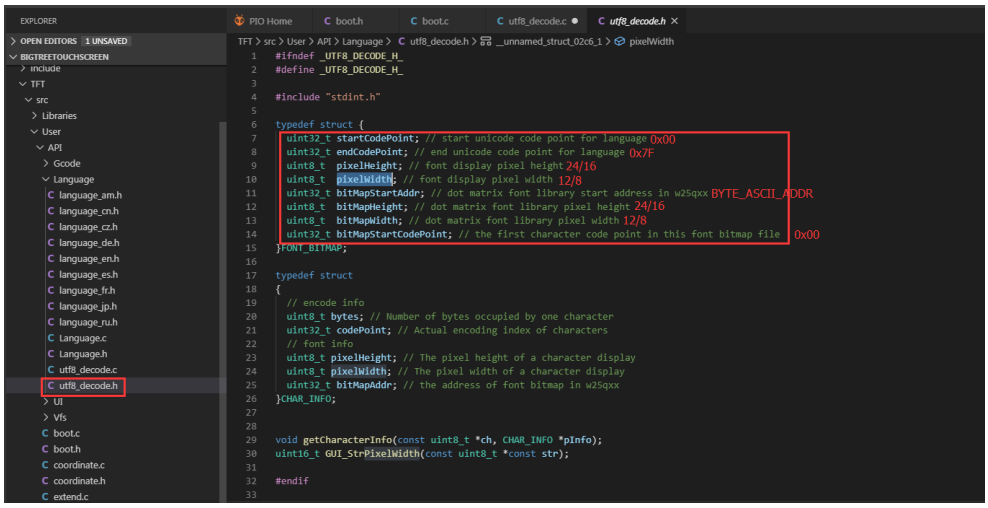
3. Set the dot matrix font in boot.h to store the starting address in SPI Flash (note the total size of the font file, do not overlap with other font addresses, and the total capacity of Flash is 8MByte, the ending address is 0x800000)

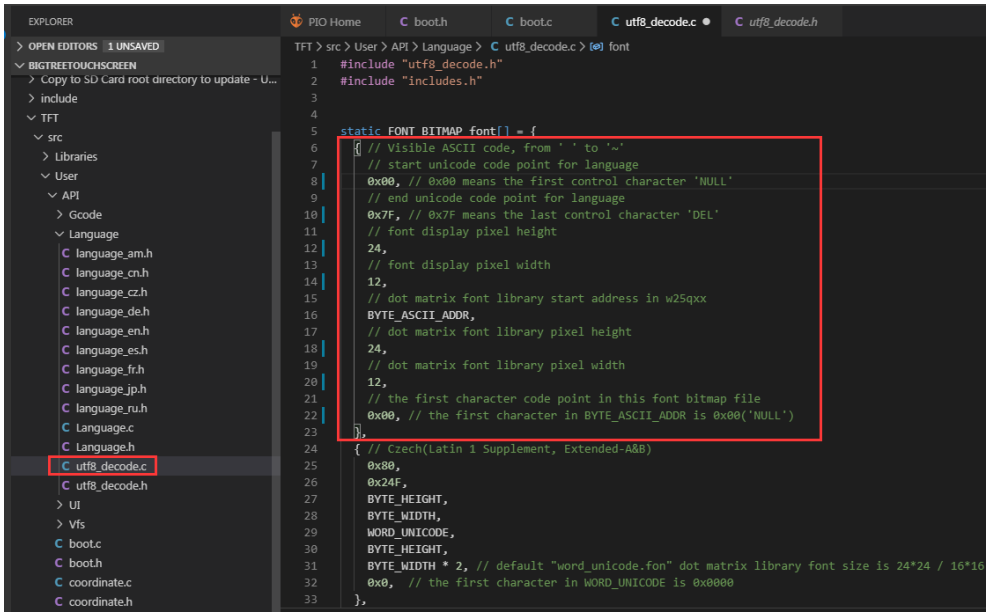


4. Add the ability to update fonts to SPI Flash in boot.c



5. In the static FONT_BITMAP font[] array of the utf8_decode.c file, add the character encoding to be parsed. The information to be added is as follows





6. Compile, generate and update new firmware, change the name of the font file to the name "russia.fon" set in the firmware boot.c, put it in the "TFT35 (TFT28, TFT24)/font" folder of the SD card, and then put the SD Insert the card into the card slot of the touch screen, reset the font file, then switch to the language you want in the settings to use your customized font.