

ME 459 Assignment 7

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Due 11/11

Task 1

a)

8 Bytes

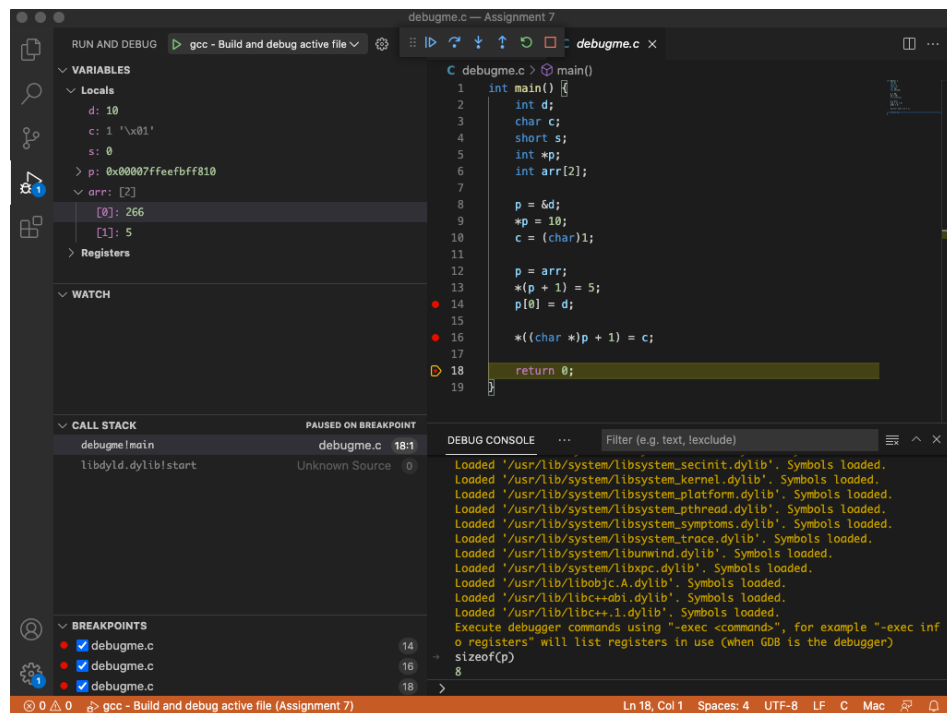


Figure 1: VS Code window showing the size of variable `p` using the debug console

b)

\x01\n - this is an indicator of the end of a header and then a new line.

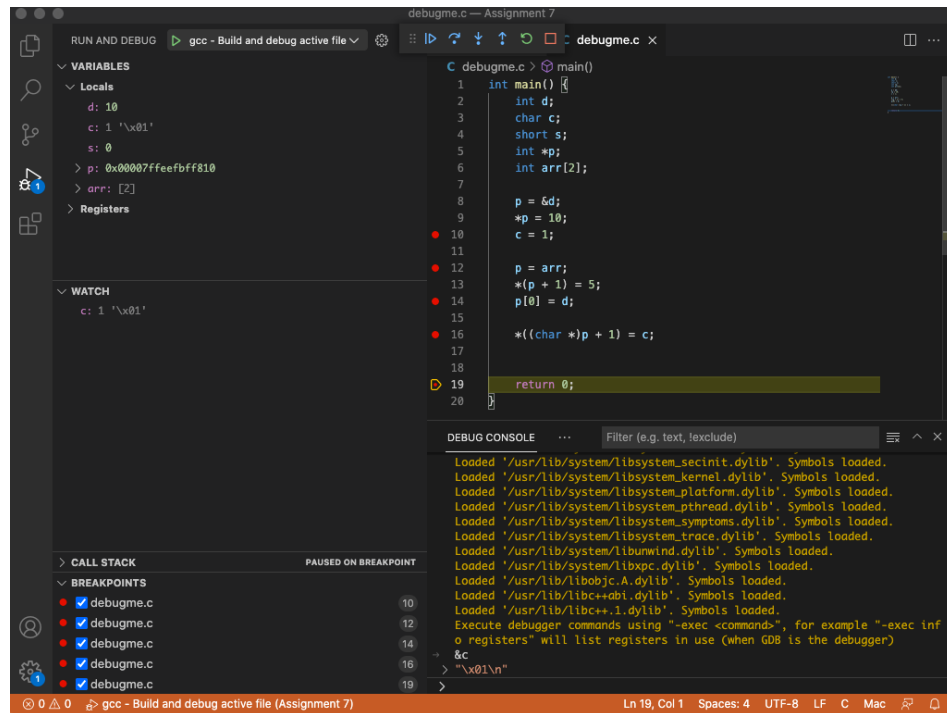


Figure 2: VS Code window showing the output given for the address of variable c using the debug console

c)
10

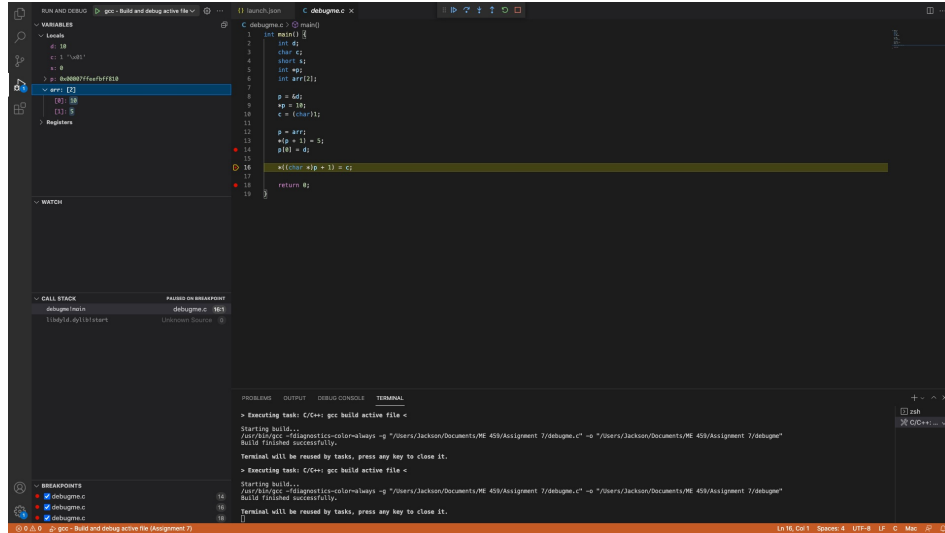
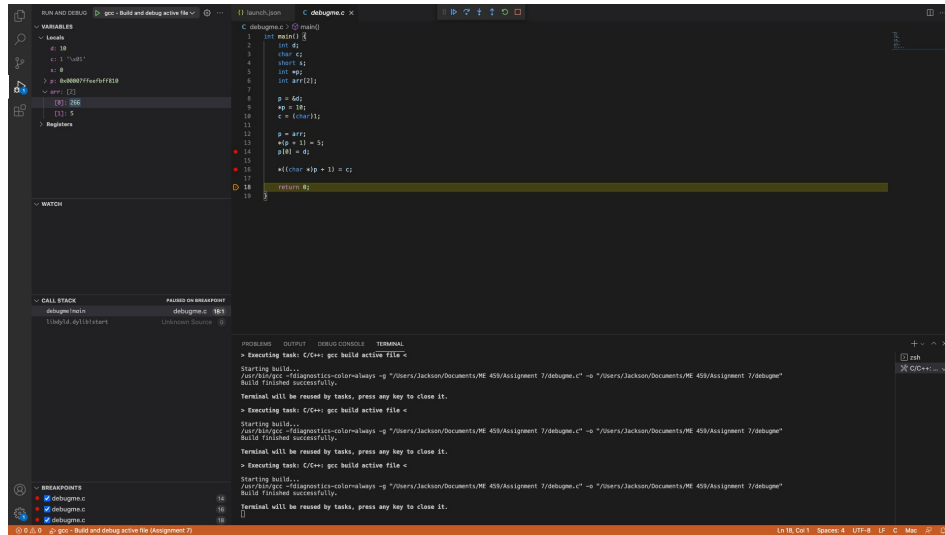


Figure 3: VS Code window showing the value of arr[0] at the requested step of the code

d)
266



e)

The reason that this changes to 266 is that when we cast `p` to be a char pointer, adding the `+1` now moves the pointer to point to the next byte, as chars are only of size 1 Byte. This is instead of the full 4 byte block which is being read for this location `arr[0]`, as that location is an int. This then puts a 1 in binary into that byte, which modifies the entire 4 byte read out of the int block within `arr`. The modification takes the read out from being `00.....0001010` to `00.....00010001010`, which is 266.