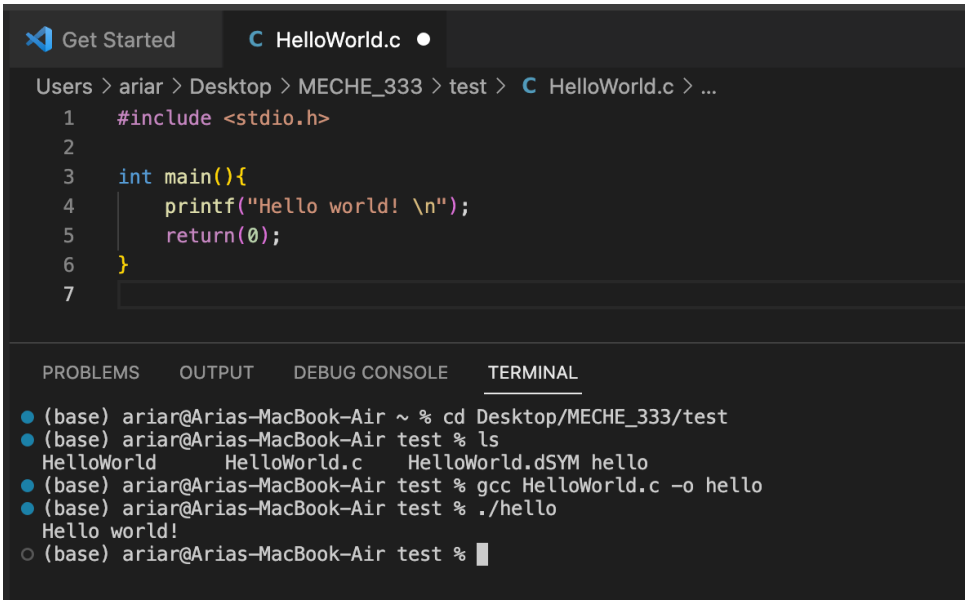
1.



2. Pointer variable contains the address of another variable and can be used to access the content of such variable.

3. Compiled code means the source code is taken in and turned into an executable version of that code whereas interpreted code means the code is in real time while it is running turned into machine executable code.

4. The most significant bit is the leftmost bit in a byte.

(a) 00011110 030
(b) 00110010 050
(c) 11111110 254
(d) 11000100 196

6. 2^16 bytes = 64 KB

7. ‘k’ is 107. ‘5’ is 53. ‘=’ is 61. ‘?’ is 63.

8. Unsigned char: 0~255. Short: -32,768 ~ 32,767. Double: 2.3E-308 ~ 1.7E+308.

10. A signed integer means it can represent both negative and positive numbers. However, an unsigned integer (which can be used by declaring a variable unsigned int) can only represent positive numbers.

11.

(a) Chars save memory, whereas ints will not have overflow issues when doing integer math.

(b) Floats have faster computation speed and take less memories, whereas doubles can maximize resolution.

(c) Floats cannot represent exactly all the integers in the same wide range, whereas chars might have overflow issues due to the smaller bytes.

16. address does not have floating points and therefore it is more similar to type int.

17.

(a) all memory contents are unknown.

(b) kp has a content of address of i which is 0xB0. The rest are unknown.

(c) j now has the same content as i but unknown.

(d) i now has a content of 0xAE. The others remain unchanged.

(e) np is now equal to kp which shares the content of 0xB0.

(f) np now changes its content to 0x12.

(g) j now has the same content as i which is 0xAE.