JINGWEN CHEN 15115141 Q4S0B

1. 0x9E450D6D
2. 0x5D29FE43A7B42606
3. The first byte is identical to the fourth byte, the second byte is identical to the third bite

Eg: 13 57 57 13 is the same in big-endian and little-endian representation

1. Since the computer on the Hubble is DF-224, which is manufactured by Rockwell Autonetics in the 1980’s and its CPU uses big-endian numerical representation. However, the new computer’s CPU is Intel Core i7 which uses little-endian numerical representation. So firstly, we convert “521829” into “0x0007F665”, and then we flip every two bits to get “0x65f60700”. Similarly, we convert “-2,207,359” into “0xFFDE5181”, and then we flip every two bits to get “0x8151DEFF”. By using “0x65f60700” and “0xFFDE5181”, we should be able to search for Proxima Centauri.

Part four testing

The base case

Hex Decimal big-endian Small-endian decimal

00 00 00 00 0 0

01 01 01 01 16843009 16843009

11 11 11 11 286331153 286331153

00 00 00 01 16777216 1

FF FF FF FF -1 -1

F6 57 8A 39 965367798 -162035143

65 45 4C 3F 1061963109 1699040319

5D 37 37 5D 1563899741 1563899741