

Problem 6.1: Unicode and UTF-8 encoding

a) c2 → 1100 0010

ac → 1010 1100

f0 → 1111 0000

9f → 1001 1111

92 → 1001 0010

bb → 1011 1011

e2 → 1110 0010

86 → 1000 0110

a6 → 1010 0110


f0 → 1111 0000


9f → 1001 1111


97 → 1001 0111

91 → 1001 0001



⑥ Unicode: c2 ac → U+00AC → "¬" the "not" symbol

f0 9f 92 bb → U+1F4BB →  → the personal computer emoji

e2 86 a6 → U+2196 →  the arrow to the right symbol

f0 9f 97 91 → U+1F5D1 →  the wastebasket emoji

The combination of those symbols and emojis in that order is what is stored in the text

"¬   

Problem 6.2: long life diet rules

① "If you don't take beer, you must have fish" $\neg B \rightarrow F$

"If you have both beer and fish, you don't have ice cream" $(B \wedge F) \rightarrow \neg I$

"If you have ice cream or don't have beer, then don't have fish" $(I \vee \neg B) \rightarrow \neg F$

* Combine the expressions using the " \wedge " (and) symbol implying that all rules are in the works and not just one.*

$$D(B, F, I) = (\neg B \rightarrow F) \wedge ((B \wedge F) \rightarrow \neg I) \wedge ((I \vee \neg B) \rightarrow \neg F)$$

②

B	F	I	$\neg F$	$\neg I$	$\neg B$	$\neg B \wedge F$	$B \wedge F$	$(B \wedge F) \rightarrow \neg I$	$I \vee \neg B$	$(I \vee \neg B) \rightarrow \neg F$	$D(B, F, I)$
1	1	1	0	0	0	1	1	0	1	0	0
1	1	0	0	1	0	1	1	1	0	1	1
1	0	1	1	0	0	1	0	1	1	1	1
1	0	0	1	1	0	1	0	1	0	1	1
0	1	1	0	0	1	1	0	1	1	0	0
0	1	0	0	1	1	1	0	1	1	0	0
0	0	1	1	0	1	0	0	1	1	1	0
0	0	0	1	1	1	0	0	1	1	1	0

③ Better Expression:

$$D(B, F, I) = B \wedge (\neg F \vee \neg I)$$

Problem 6.3: Submitted as .txt file as requested in a separate file.