

20195633+李燕琴+作业 3

1、求以下真值的原码、补码、反码

1) +0.10110110

$$[x]_{\text{原}} = 0.10110110$$

$$[x]_{\text{补}} = 0.10110110$$

$$[x]_{\text{反}} = 0.10110110$$

2) -0.10000010

$$[x]_{\text{原}} = 1.10000010$$

$$[x]_{\text{补}} = 1.01111110$$

$$[x]_{\text{反}} = 1.01111101$$

2、按照原码、补码、反码计算下面的式子

1) 0.11010011+-0.00110101

$$0.11010011 + -0.00110101$$

$$=[0.11010011]_{\text{原}} + [-0.00110101]_{\text{原}}$$

$$=0.11010011 + 1.00110101$$

$$=0.10011110$$

$$\text{原码: } \begin{array}{r} 0.11010011 \\ + \\ 1.00110101 \\ \hline \end{array} = \begin{array}{r} 0.11010011 \\ - \\ 0.00110101 \\ \hline 0.10011110 \end{array}$$

(结果符号位，与绝对值大的相同，数值位为大减小)

$$0.11010011 + -0.00110101$$

$$=[0.11010011]_{\text{补}} + [-0.00110101]_{\text{补}}$$

$$=0.11010011 + 1.11001011$$

$$=0.10011110$$

$$\text{补码: } \begin{array}{r} 0.11010011 \\ + \\ 1.11001011 \\ \hline 10.10011110 \end{array}$$

(补码加法运算忽略进位，结果是0.10011110)

$$0.11010011 + -0.00110101$$

$$=[0.11010011]_{\text{反}} + [-0.00110101]_{\text{反}}$$

$$=0.11010011 + 1.11001010$$

$$=0.10011110$$

$$\text{反码: } \begin{array}{r} 0.11010011 \\ + 1.11001010 \\ \hline 10.10011101 \end{array}, \quad \begin{array}{r} 0.10011101 \\ + 0.00000001 \\ \hline 0.10011110 \end{array}$$

(反码加法运算，可将符号位产生的进位加到最低位进行修正，结果是0.10011110)

$$2) +0.10000001 + 0.00101111$$

$$+0.10000001 + 0.00101111$$

$$=[0.10000001]_{\text{原}} + [0.00101111]_{\text{原}}$$

$$=0.10000001 + 0.00101111$$

$$=0.10110000$$

$$\text{原码: } \begin{array}{r} 0.10000001 \\ + 0.00101111 \\ \hline 0.10110000 \end{array}$$

$$+0.10000001 + 0.00101111$$

$$=[0.10000001]_{\text{补}} + [0.00101111]_{\text{补}}$$

$$=0.10000001 + 0.00101111$$

$$=0.10110000$$

$$\text{补码: } \begin{array}{r} 0.10000001 \\ + 0.00101111 \\ \hline 0.10110000 \end{array}$$

$$+0.10000001 + 0.00101111$$

$$=[0.10000001]_{\text{反}} + [0.00101111]_{\text{反}}$$

$$=0.10000001 + 0.00101111$$

$$=0.10110000$$

$$\text{反码: } \begin{array}{r} 0.10000001 \\ + 0.00101111 \\ \hline 0.10110000 \end{array}$$