Base 2

Positive Normal

Number: 1.00111 Exponent: 5

Sign Bit:0

Exponent: 1000 0100

Mantissa: 001 1100 0000 0000

0000 0000

Binary Output: 0 1000 0100 001 1100 0000 0000 0000 0000 Hexadecimal: 421C0000

IEEE-754 Binary-32 Floating-Point Converter

1.00111	
x2 (Binary)	
5	
Convert	
Clear	
Download Output	
Binary Output: 0 10000100 001110000000000000000000	
Hexadecimal: 421C0000	

Special Values Instructions

- Signaling NaN: Enter "sNaN"

- Signaling NaN: Enter "sNaN"
 Quiet NaN: Enter "qNaN"
 Positive Infinity: Enter "Infinity"
 Negative Infinity: Enter "-Infinity"
 Negative Zero: Enter "-0"
 Positive Zero: Enter "0"

Negative Normal

Number: -100.111 Exponent: -7

Sign Bit: 1

Exponent: 0111 1010

Mantissa: 001 1100 0000 0000

0000 0000

Binary Output: 1 0111 1010 001 1100 0000 0000 0000 0000 Hexadecimal: BD1C0000

IEEE-754 Binary-32 Floating-Point Converter



Hexadecimal: BD1C0000

Special Values Instructions

- Signaling NaN: Enter "sNaN"
- Quiet NaN: Enter "qNaN"
 Positive Infinity: Enter "Infinity"
- Negative Infinity: Enter "-Infinity"
 Negative Zero: Enter "-0"
 Positive Zero: Enter "0"

Positive Largest Normal

Number:

1.11111111111111111111111

Exponent: 127

Sign Bit:0

Exponent: 1111 1110

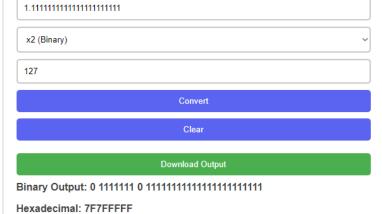
Mantissa:

1111111111111111111111111

Binary Output:

Hexadecimal: 7F7FFFF

IEEE-754 Binary-32 Floating-Point Converter



Special Values Instructions

- Signaling NaN: Enter "sNaN"
- Quiet NaN: Enter "qNaN"
- Quiet Nan. Enter qivan
 Positive Infinity: Enter "Infinity"
 Negative Infinity: Enter "-Infinity"
 Negative Zero: Enter "-0"
 Positive Zero: Enter "0"

Negative Largest Normal

Number:

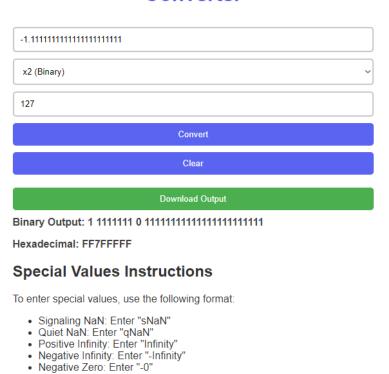
Exponent: 127

Sign Bit:1

Exponent: 1111 1110

Mantissa:

IEEE-754 Binary-32 Floating-Point Converter



Positive Zero: Enter "0"

Smallest Positive Normal

Number: 1 Exponent: -126

Sign Bit:0

Exponent: 0000 0001

Mantissa: 000 0000 0000 0000

0000 0000

Hexadecimal: 00800000

Smallest Negative Normal

Number: -1 Exponent: -126

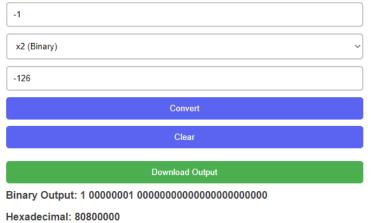
Sign Bit:1

Exponent: 00000001

Mantissa:

Binary Output: 1 00000001 Hexadecimal: 80800000

IEEE-754 Binary-32 Floating-Point Converter



Special Values Instructions

- · Signaling NaN: Enter "sNaN"

- Quiet NaN: Enter "QNAN"
 Positive Infinity: Enter "Infinity"
 Negative Infinity: Enter "-Infinity"
 Negative Zero: Enter "-0"
- Positive Zero: Enter "0"

Special Case: Positive Denormalized

Number: 111.0000111 Exponent: -135

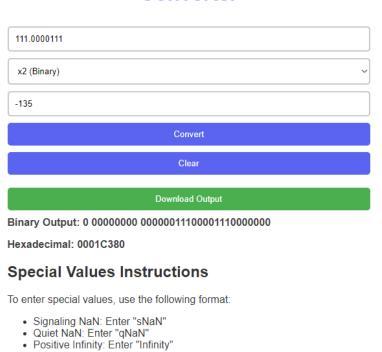
Sign Bit: 0

Exponent: 00000000

Mantissa:

0000001110000111000000 Binary Output: 0 00000000 0000001110000111000000 Hexadecimal: 0001C380

IEEE-754 Binary-32 Floating-Point Converter



Negative Infinity: Enter "-Infinity"
 Negative Zero: Enter "-0"
 Positive Zero: Enter "0"

Special Case: Negative

Denormalized Number: -1.1110 Exponent: -130

Sign Bit:1

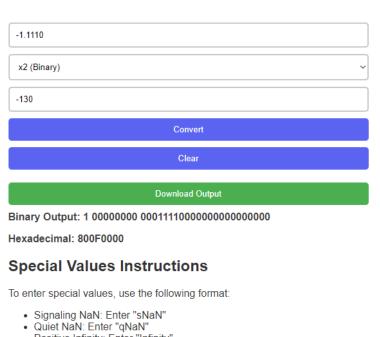
Exponent: 0000 0000

Mantissa: 000 1111 0000 0000

0000 0000

Binary Output: 1 0000 0000 000 1111 0000 0000 0000 0000 Hexadecimal: 800F0000

IEEE-754 Binary-32 Floating-Point Converter



- Positive Infinity: Enter "Infinity"
- Negative Infinity: Enter "-Infinity"
 Negative Zero: Enter "-0"
 Positive Zero: Enter "0"

Special Case: Infinity

Number: 1.111 Exponent: 999

Sign Bit:0

Exponent: 1111 1111

Mantissa: 000 0000 0000 0000

0000 0000

Special Case: -Infinity

Number: -1.111 Exponent: 999

Sign Bit: 1

Exponent: 1111 1111

Mantissa: 000 0000 0000 0000

0000 0000

Binary Output: 1 1111 1111 000 0000 0000 0000 0000 0000 Hexadecimal: FF800000

IEEE-754 Binary-32 Floating-Point Converter

-1.111
x2 (Binary)
999
Convert
Clear
Download Output
Binary Output: 1 11111111 00000000000000000000000000
Hexadecimal: FF800000
Special Values Instructions
To enter special values, use the following format:

- Signaling NaN: Enter "sNaN"Quiet NaN: Enter "qNaN"Positive Infinity: Enter "Infinity"

- Negative Infinity: Enter "-Infinity"
 Negative Zero: Enter "-0"
 Positive Zero: Enter "0"

Special Case: 0 Number: 0 Exponent: 0

Sign Bit:0

Exponent: 0000 0000

Mantissa: 000 0000 0000 0000

0000 0000

Binary Output:0 00000000 000000000000000000000000 Hexadecimal: 00000000

Special Case: -0

Number: -0 Exponent: 0

Sign Bit: 1

Exponent: 0000 0000

Mantissa: 000 0000 0000 0000

0000 0000

Special Case: sNaN

Number: sNaN Exponent: 0

Sign Bit: x

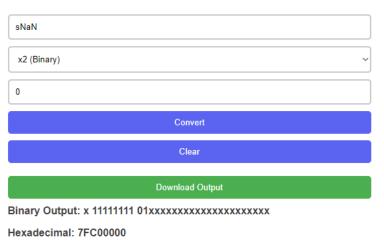
Exponent: 1111 1111

Mantissa: x 1111 1111 01x XXXX XXXX XXXX XXXX

Binary Output: 01x

XXXX XXXX XXXX XXXX Hexadecimal: 7FC00000

IEEE-754 Binary-32 Floating-Point Converter



Special Values Instructions

- Signaling NaN: Enter "sNaN"
- Quiet NaN: Enter "qNaN"
- Quiet Nank, Effer qivan
 Positive Infinity: Enter "Infinity"
 Negative Infinity: Enter "-Infinity"
 Negative Zero: Enter "-0"
 Positive Zero: Enter "0"

Special Case: qNaN Number: qNaN

Exponent: 0

Sign Bit: x

Exponent: 1111 1111

Mantissa: 1xx

XXXX XXXX XXXX XXXX

Binary Output: x 1111 1111 1xx XXXX XXXX XXXX XXXX Hexadecimal: 7FA00000

IEEE-754 Binary-32 Floating-Point Converter

qNaN		
x2 (Binary)		~
0		
	Convert	
	Clear	

Binary Output: x 11111111 1xxxxxxxxxxxxxxxxxxxxxx

Hexadecimal: 7FA00000

Special Values Instructions

To enter special values, use the following format:

- Signaling NaN: Enter "sNaN"
- Quiet NaN: Enter "qNaN"
- Quiet Nain. Enter qivain
 Positive Infinity: Enter "Infinity"
 Negative Infinity: Enter "-Infinity"
 Negative Zero: Enter "-0"
 Positive Zero: Enter "0"

Base 10

Positive Normal

Number: 2.005 Exponent: 3

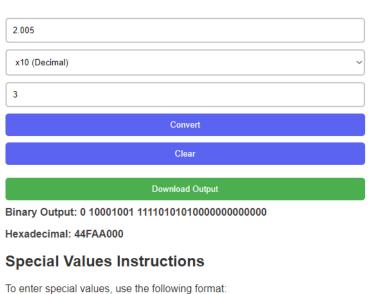
Sign Bit:0

Exponent: 10001001

Mantissa:

111101010100000000000000 Binary Output: 0 10001001 1111010101000000000000000 Hexadecimal: 44FAA000

IEEE-754 Binary-32 Floating-Point Converter



- Signaling NaN: Enter "sNaN"
- Quiet NaN: Enter "qNaN"
- Quiet Nan. Effer quan
 Positive Infinity: Enter "Infinity"
 Negative Infinity: Enter "-Infinity"
 Negative Zero: Enter "-0"
 Positive Zero: Enter "0"

Negative Normal Number: -50 Exponent: 2

Sign Bit: 1

Exponent: 10001011

Mantissa:

001110001000000000000000

Binary Output:

Hexadecimal: C59C4000

IEEE-754 Binary-32 Floating-Point Converter

-50
x10 (Decimal)
2
Convert
Clear
Download Output
Binary Output: 1 10001011 00111000100000000000000
Hexadecimal: C59C4000
Special Values Instructions
To enter special values, use the following format:
 Signaling NaN: Enter "sNaN" Quiet NaN: Enter "qNaN" Positive Infinity: Enter "Infinity" Negative Infinity: Enter "-Infinity" Negative Zero: Enter "-0" Positive Zero: Enter "0"

Special Case: Positive

Denormalized Number: 100000 Exponent: -61

Sign Bit:0

Exponent: 00000000

Mantissa: 0000000000000000

0000001

Binary Output: 0 00000000 000000000000000 00000001 Hexadecimal: 00000001

Special Case: Infinity

Number: 999 Exponent: 199

Sign Bit:0

Exponent: 1111 1111

Mantissa: 000 0000 0000 0000

0000 0000

Binary Output: 0 1111 1111 000 0000 0000 0000 0000 0000 Hexadecimal: 7F80000

IEEE-754 Binary-32 Floating-Point Converter



Hexadecimal: 7F800000

Special Values Instructions

- · Signaling NaN: Enter "sNaN"

- Signaling Nan. Enter "SNan"
 Quiet NaN: Enter "qNaN"
 Positive Infinity: Enter "Infinity"
 Negative Infinity: Enter "-Infinity"
 Negative Zero: Enter "-0"
 Positive Zero: Enter "0"

Special Case: -Infinity

Number: -999 Exponent: 199

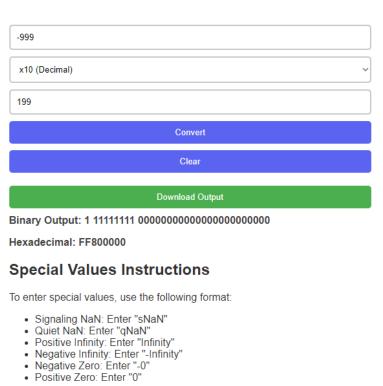
Sign Bit: 1

Exponent: 1111 1111

Mantissa: 000 0000 0000 0000

0000 0000

IEEE-754 Binary-32 Floating-Point Converter



Special Case: 0 Number: 0

Exponent: 0

Sign Bit:0

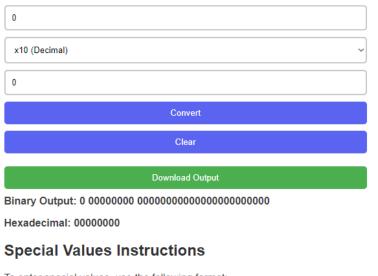
Exponent: 0000 0000

Mantissa: 000 0000 0000 0000

0000 0000

Binary Output:0 00000000 Hexadecimal: 00000000

IEEE-754 Binary-32 Floating-Point Converter



- · Signaling NaN: Enter "sNaN"
- Quiet NaN: Enter "qNaN"
 Positive Infinity: Enter "Infinity"
- Negative Infinity: Enter "-Infinity"
 Negative Zero: Enter "-0"
 Positive Zero: Enter "0"

Special Case: -0

Number: -0 Exponent: 0

Sign Bit: 1

Exponent: 0000 0000

Mantissa: 000 0000 0000 0000

0000 0000

Binary Output: 1 00000000 Hexadecimal: 80000000

IEEE-754 Binary-32 Floating-Point Converter



Hexadecimal: 80000000

Special Values Instructions

- Signaling NaN: Enter "sNaN"

- Signaling NaN. Enter Shann
 Quiet Nan: Enter "qNaN"
 Positive Infinity: Enter "Infinity"
 Negative Infinity: Enter "-Infinity"
 Negative Zero: Enter "-0"
 Positive Zero: Enter "0"

Special Case: sNaN

Number: sNaN Exponent: 0

Sign Bit: x

Exponent: 1111 1111

Binary Output: 01x

xxxx xxxx xxxx xxxx xxxx Hexadecimal: 7FC00000

Special Case: qNaN Number: qNaN Exponent: 0

Sign Bit: x

Exponent: 1111 1111

Mantissa: 1xx

XXXX XXXX XXXX XXXX XXXX

Binary Output: x 1111 1111 1xx XXXX XXXX XXXX XXXX XXXX Hexadecimal: 7FA00000

IEEE-754 Binary-32 Floating-Point Converter

qNaN
x10 (Decimal)
0
Convert
Clear
Download Output
Binary Output: x 11111111 1xxxxxxxxxxxxxxxxxxxxxx
Hexadecimal: 7FA00000
Special Values Instructions
To enter special values, use the following format:
 Signaling NaN: Enter "sNaN" Quiet NaN: Enter "qNaN" Positive Infinity: Enter "Infinity" Negative Infinity: Enter "-Infinity" Negative Zero: Enter "-0" Positive Zero: Enter "0"

Error Handling

Null / Incomplete Input

Output: ERROR: Please enter both a number and an exponent

IEEE-754 Binary-32 Floating-Point Converter Enter number (e.g., NaN, sNaN, qNaN, Infinity, -Infinity, -0) x2 (Binary) Enter exponent Clear Download Output Binary Output: Hexadecimal: ERROR: Please enter both a number and an exponent Special Values Instructions To enter special values, use the following format: Signaling NaN: Enter "sNaN" Quiet NaN: Enter "qNaN" Positive Infinity: Enter "lnfinity" Negative Zero: Enter ".0" Positive Zero: Enter ".0" Positive Zero: Enter ".0" Positive Zero: Enter ".0"

Invalid Binary Input Output: Conversion will not proceed IEEE-754 Binary-32 Floating-Point Converter 123 x2 (Binary) 1 Convert Clear Download Output Binary Output: Hexadecimal: Special Values Instructions To enter special values, use the following format: • Signaling NaN: Enter "sNaN" • Quiet NaN: Enter "gNaN" • Positive Infinity: Enter "Infinity" • Negative Enter "Infinity" • Negative Enter "Infinity" • Negative Enter "O" • Positive Zero: Enter "O"

Invalid Decimal Input Output: Conversion will not proceed IEEE-754 Binary-32 Floating-Point Converter abc x10 (Decimal) Convert Clear Download Output Binary Output: Hexadecimal: Special Values Instructions To enter special values, use the following format: Signaling NaN: Enter "sNaN" Quiet NaN: Enter "qNaN" Positive Infinity: Enter "Infinity" Negative Zero: Enter ".0" Positive Zero: Enter ".0"