Question 1

10 points Saved

How many bytes are used to encode an ASCII character?

A. 2

B. 4

C. 1

D. 8

Question 2

10 points Saved

Images using Lossy data compression allows for original data to be reconstructed without loss of information. True or False?

True

False

Question 3

10 points Saved

A Floating point number's EXPONENT is encoded in which binary format?

A. Sign Magnitude

B. Two's Complement

C. Excess K

D. One's Complement

Question 4

10 points Save Answer

Convert the following UTF-8 encoded binary into a Unicode Character:

11100100 10100110 10001010

A. U+494A

B. U+498A

C. U+4A58A

D. U+A58A

Question 5

10 points Saved

Which statements are TRUE regarding Excess K?

A. when positive, it has the same binary code as one's complement

B. two representations for zero

C. one representation for zero

D. has a sign bit

Question 6

10 points ✔ Saved

In BCD, positive values are represented by what bit pattern?

A. 1011

B. 1100

C. 1101

D. 1010

Question 7

10 points Saved

Convert the following from Hexadecimal to Binary:

$(3B2A)_{16}$

A. 0011101100101101

B. 0011101110101010

C. 15146

D. 0011101100101010

Question 8

10 points Saved

Perform the following subtraction operation on the following 2's complement numbers. If the resulting answer is wrong due to OVERFLOW, please indicate.

1011 - 0110

A. OVERFLOW

B. 1001

C. 0101

D. 10101

Question 9

10 points Saved

What value is encoded in the following Single Precision Floating Point?

0 11111111 11100…0

A. Infinity

B. +infinity

C. Denormalized Number

D. Not A Number

Question 10

10 points Save Answer

A 32 Bit Floating Point can store more values than a 32 Bit Int. True or False?

True

False

Question 11

10 points Saved

A 32 Bit Floating Point can support a 24 bit ODD number. True or False?

True

False

Question 12

10 points | Saved

Given the following number:

```
11111111 11111111 11111111 11100000
```

What would be the value in DECIMAL if 2's complement encoding was used?

A. 32

B. -32

C. -31

D. 31

Question 13

10 points Saved

In UTF-8, if the LEADING BYTE looks like this:

11010111

How many bytes are used to encode the character?

A. 4

B. 1

C. 8

D. 2

Question 14

10 points Save Answer

Which statements are TRUE about 2's complement encoding

A. two representations for zero

B. For positive values, the binary code is identical to one's complement

C. there is a sign bit

D. one representation for zero

Question 15

10 points Saved

Convert the following from Unsigned Binary to Hexidecimal:

$(1100111001110011)_2$

A. CB73

B. CE73

C. 52083

D. A1B1

Question 16

10 points Saved

Convert from Decimal Fraction to Binary:

$(0.625)_{10}$

A. 0.110010101

B. 0.110010

C. 0.110101

D. 0.101

Question 17

10 points Save Answer

Convert the following Unsigned Binary to Decimal:

$(10010110)_2$

A. 192

B. 128

C. 150

D. 256

Question 18

10 points Saved

How many bits are used to encode an ASCII character?

A. 4

B. 16

C. 8

D. 7

Question 19

10 points Saved

What is the range of decimal values that can be represented by 8 bits using Sign Magnitude?

A. -127 to +127

B. -128 to +127

C. -128 to +128

D. -129 to +128

Question 20

10 points Saved

In addition to an IP address, every network device also has a MAC address. Given the following MAC address: 60-e3-27-18-ad-3d

How many bits is a MAC address?

A. 12 bits

B. 16 bits

C. 48 bits

D. 32 bits

Question 21

10 points Save Answer

There are two representations for ZERO in One's Complement. True or False?

True

False

Question 22

10 points ✔ Saved

Convert the following from Unsigned Binary to Decimal:

$(0.101)_2$

A. 0.5

B. 0.625

C. 0.05

D. 0.50

Question 23

10 points Saved

Add the following 2's Complement numbers. If the answer is incorrect due to OVERFLOW, please indicate.

```
  1101
+1100
```

A. 11001

B. 1001

C. 1100

D. OVERFLOW

Question 24

10 points Saved

Perform the following multiplication operation on the following 2's complement numbers. If the resulting answer is wrong due to OVERFLOW, please indicate.

1011
x 1011

A. 111001

B. OVERFLOW

C. 00011001

D. 1111001

Question 25

10 points Saved

Which of the following encodings use a Sign Bit?

A. Excess K

B. One's Complement

C. Two's Complement

D. Sign Magnitude

Question 26

10 points Saved

There are two representations for ZERO in Two's Complement. True or False?

True

False

Question 27

10 points ✔ Saved

Given a 32 bit Single Precision Floating Point. What is the smallest positive value that can be represented (in normalized form)?

A. 1.1×2^{-126}

B. 1×2^{-126}

C. 1×2^{-127}

D. 0.1×2^{-126}

Question 28

10 points ✔ Saved

What is the range of decimal values that can be represented by 8 bits using Two's Complement?

A. -128 to +128

B. -127 to +127

C. -129 to +128

D. -128 to +127

Question 29

10 points ✔ Saved

What is the Binary Coded Decimal for $(36.5)_{10}$

A. 100100.11

B. 001101100101

C. 100100.101

D. 100100.1

Question 30

10 points ✔ Saved

Which is the largest value that can be stored in a normalized 32 bit floating point?

A. $2^{32} - 1$

B. $1.1111111111111 \times 2^{126}$

C. +infinity

D. $1.1111111111111 \times 2^{127}$

Question 31

10 points Save Answer

BCD supports Floating Point numbers. True or False?

True

False

Question 32

10 points Saved

in a Double Precision Floating Point encoding, what decimal exponent is represented by 00000000001?

A. -127

B. -126

C. -1023

D. -1022

Question 33

10 points Save Answer

Which is not a valid UTF-8 character?

A. They are all valid UTF-8

B. 11101001 10101010 10010100 10000100

C. 01100101

D. 11010010 10101010

Question 34

10 points ✔ Saved

Given the following Binary:

```
11000001 01010000 00000000 00000000
```

What DECIMAL value is encoded if SINGLE PRECISION FLOATING POINT was used?

A. -0.501

B. -0.5

C. -13

D. -1.5

Question 35

10 points Saved

What is the range of decimal values that can be represented by 8 bits using One's Complement?

A. -128 to +128

B. -129 to +128

C. -128 to +127

D. -127 to +127

Question 36

10 points ✔ Saved

Convert the following from DECIMAL to BINARY: 12

A. 1110

B. 1111

C. 1100

D. 1010

Question 37

10 points Saved

UTF-8 is a fixed width encoding. True or False?

True

False

Question 38

10 points Saved

Convert the following from Unsigned Binary to Octal:

$(001000010100)_2$

A. 512

B. 1533

C. 1024

D. 859

Question 39

10 points Saved

What value is encoded in the following Single Precision Floating Point?

0 00000000 000...0

A. Not a Number

B. Denormalized Number

C. +infinity

D. 0

Question 40

10 points Saved

Convert the following from Octal to Hexadecimal:

$(3723)_8$

A. R2D2

B. 7E3

C. 7D3

D. 2019