

Quiz

Number Representations

Binary \leftrightarrow Decimal

Convert to Binary.

1. $(10)_{10}$
2. $(73)_{10}$
3. $(8)_{10}$
4. $(17)_{10}$
5. $(100)_{10}$
6. $(4)_{10}$
7. $(16)_{10}$
8. $(24)_{10}$

Convert to Decmal.

1. $(10)_2$
2. $(10110)_2$
3. $(1100)_2$
4. $(101011)_2$
5. $(100)_2$
6. $(01001)_2$
7. $(1001)_2$
8. $(100010)_2$

Binary \leftrightarrow Decimal

Convert to Binary.

1. $(10.10)_{10}$
2. $(0.50)_{10}$
3. $(0.23)_{10}$
4. $(17.95)_{10}$
5. $(100.25)_{10}$
6. $(4.20)_{10}$
7. $(16.0)_{10}$
8. $(24.16)_{10}$

Convert to Decmal.

1. $(10.001)_2$
2. $(10110.010)_2$
3. $(1100.101)_2$
4. $(101011.10)_2$
5. $(100.111)_2$
6. $(0.011)_2$
7. $(1001.100)_2$
8. $(0.11)_2$

Binary \leftrightarrow Decimal \leftrightarrow Hexadecimal

Convert to Hexadecimal.

1. $(10)_2$
2. $(10110)_2$
3. $(1100)_2$
4. $(101011)_2$
5. $(100)_2$
6. $(01001)_2$
7. $(1001)_2$
8. $(100010)_2$

Hex to Binary.

1. $(10.E)_{16}$
2. $(23)_{16}$
3. $(A.B)_{16}$
4. $(FF.0)_{16}$
5. $(3A)_{16}$
6. $(17.0)_{16}$
7. $(A.2)_{16}$
8. $(F9)_{16}$

Hex to Decimal.

1. $(10.E)_{16}$
2. $(23)_{16}$
3. $(AB)_{16}$
4. $(F0)_{16}$
5. $(3A)_{16}$
6. $(17.0)_{16}$
7. $(A2)_{16}$
8. $(F9)_{16}$

Signed Representations

Convert to SIGN MAGNITUDE representation.

- | | |
|------------------|------------------|
| 1. $(10)_{10}$ | 5. $(-100)_{10}$ |
| 2. $(50)_{10}$ | 6. $(-22)_{10}$ |
| 3. $(-210)_{10}$ | 7. $(-6)_{10}$ |
| 4. $(-175)_{10}$ | 8. $(-241)_{10}$ |

Convert to ONE'S COMPLEMENT representation.

- | | |
|------------------|------------------|
| 1. $(10)_{10}$ | 5. $(-100)_{10}$ |
| 2. $(50)_{10}$ | 6. $(-22)_{10}$ |
| 3. $(-210)_{10}$ | 7. $(6)_{10}$ |
| 4. $(-175)_{10}$ | 8. $(241)_{10}$ |

Convert to TWO'S COMPLEMENT representation.

- | | |
|------------------|------------------|
| 1. $(10)_{10}$ | 5. $(-100)_{10}$ |
| 2. $(50)_{10}$ | 6. $(-22)_{10}$ |
| 3. $(-210)_{10}$ | 7. $(6)_{10}$ |
| 4. $(-175)_{10}$ | 8. $(241)_{10}$ |

Arithmetic Operations

Show how the following Arithmetic Operations would be performed using:

① One's Complement

② Two's Complement

1. $10 - 100$

2. $50 - 22$

3. $241 - 210$

4. $-241 - 175$

5. $-241 + 210$

6. $50 + 22$

7. $-8 + 80$

8. $-24 - 8$

9. $100 - 10$

10. $-22 - 50$

11. $241 - 6$

12. $241 - 175$

13. $4 + 10$

14. $-2 - 4$

15. $-4 + 36$

16. $16 + 16$