Assignment (1): Arithmetic in Number System

Binary

1. 10001 + 1010

10001

1010

11011

1. 10001 – 1010

16 8 4 2 1

1 0 0 0 1 = 17

1 0 1 0 = 10

0 0 1 1 1 = 7

10001

1010

00111

1. 10001 \* 1010

10001

1010

00000

10001

00000

10001

10101010

1. 10001 / 1010 = 0001

10 17 1 <= Quotient

7 <= Remainder

Octal

1. 17 + 23

17

7 + 3 = 10 – 8 = 2 1 <= carry bit

23

42

1. 17 – 23, 23 - 17

0000 0017

0000 0023

1 7777 7774

0000 0023

0000 0017

0000 0004

1. 17 \* 23 = 4358

8 285 5 <= Remainder

8 35 3 <= Remainder

4 <= Remainder

178 =1510

238 = 1910

28510

1. 17 / 23 = 0

23 / 17 = 1

Hexadecimal

1. AED4 + FAC3

A E D 4

F A C 3

1 A 9 9 7

1. AED4 – FAC3

A E D 4

F A C 3

F B 4 1 1

1. AED4 \* FAC3

A E D 4

F A C 3

2 0 C 7 C

8 3 1 F 0

6 D 4 4 8

A 3 E 6 C

A B 4 0 3 3 7 C

1. AED4 / FAC3 = 0

AED416 = 4475610

FAC316 = 6419510

4475610 / 6419510 = 0