Part B: Number Conversions

a: =

Approach:

Stack = []

= 12 … 0 (Stack = [0])

= 6 … 0 (Stack = [0, 0])

= 3 … 0 (Stack = [0, 0, 0])

= 1 … 1 (Stack = [1, 0, 0, 0])

= 0 … 1 (Stack = [1, 1, 0, 0, 0])

= Stack =

b: =

Approach:

Stack = []

= 2839 … 0 (Stack = [0])

= 1419 … 1 (Stack = [1, 0])

= 709 … 1 (Stack = [1, 1, 0])

= 354 … 1 (Stack = [1, 1, 1, 0])

= 177 … 0 (Stack = [0, 1, 1, 1, 0])

= 88 … 1 (Stack = [1, 0, 1, 1, 1, 0])

= 44 … 0 (Stack = [0, 1, 0, 1, 1, 1, 0])

= 22 … 0 (Stack = [0, 0, 1, 0, 1, 1, 1, 0])

= 11 … 0 (Stack = [0, 0, 0, 1, 0, 1, 1, 1, 0])

= 5 … 1 (Stack = [1, 0, 0, 0, 1, 0, 1, 1, 1, 0])

= 2 … 1 (Stack = [1, 1, 0, 0, 0, 1, 0, 1, 1, 1, 0])

= 1 … 0 (Stack = [0, 1, 1, 0, 0, 0, 1, 0, 1, 1, 1, 0])

= 0 … 1 (Stack = [1, 0, 1, 1, 0, 0, 0, 1, 0, 1, 1, 1, 0])

= Stack =

c: =

Approach:

Stack = []

= 128 … 0 (Stack = [0])

= 64 … 0 (Stack = [0, 0])

= 32 … 0 (Stack = [0, 0, 0])

= 16 … 0 (Stack = [0, 0, 0, 0])

= 8 … 0 (Stack = [0, 0, 0, 0, 0])

= 4 … 0 (Stack = [0, 0, 0, 0, 0, 0])

= 2 … 0 (Stack = [0, 0, 0, 0, 0, 0, 0])

= 1 … 0 (Stack = [0, 0, 0, 0, 0, 0, 0, 0])

= 0 … 1 (Stack = [1, 0, 0, 0, 0, 0, 0, 0, 0])

= Stack =

d: =

Approach:

Stack = []

= 4 … 0 (Stack = [0])

= 2 … 0 (Stack = [0, 0])

= 1 … 0 (Stack = [0, 0, 0])

= 0 … 1 (Stack = [1, 0, 0, 0])

= Stack =