```c
/*-----------------------------------------------------------------------
-            SE 185: Lab 01 - Getting to Know the 185 Environment        -
-    Name: Alvin Thomas
                                        -
-    Section: Section 2
                                                    -
-    NetID: alvin
                                                        -
-    Date: 8/29/2023
                                                        -
-----------------------------------------------------------------------*/

/*

    Here is a block comment.
    These lines don't run when you compile or run the code.
    I.e., they're the machine doesn't see them, only you.
*/

/*-----------------------------------------------------------------------
-                            Includes                                    -
-----------------------------------------------------------------------*/
#include <stdio.h>

/*-----------------------------------------------------------------------
-                            Implementation                              -
-----------------------------------------------------------------------*/
int main(int argc, char *argv[])
{
    // This is a C comment, this line doesn't run in the program

    printf("Hello world"); // Modify this line
    printf("\n"); // This prints a newline character

    return 0; // This is a return statement
}
```

Value before input: 0

Type a number: Type your NetID:

Your input was 35 and your ISU email is alvin@iastate.edu

HOMEWORK

Alvm Thomas

Base Conversion Companion Homework

Decimal	Binary	Octal	Hexadecimal
1	1	1	1
10	1010	12	A
42	101010	52	2A
255	11111111	377	FF
15	1111	17	F
223	11011111	337	DF
129	10000001	201	81
147	10010011	223	93
63	111111	77	3F
18	10010	22	12

$10_{10} \rightarrow$ 10/2 = 5   0 $\rightarrow 1010_2$ 10/8 = 1   2 $\rightarrow$ 12
      5/2 = 2   1   1/8 = 0   1
      2/2 = 0   0
      1/2 =   0

42 $\rightarrow$ 42/2 = 21   0   42/8 = 5   2   42/16 = 2   10
      21/2 = 10   1   5/8 = 0   5   2/16 = 0   2
      10/2 = 5   0
      5/2 = 2   1
      2/2 = 1   0
      1/2 = 0   1

255 $\rightarrow$ 255/2 = 127   1   255/8 = 31   7   255/16 = 15   15
      127/2 = 63   1   31/8 = 3   7   15/16 = 0   15
      63/2 = 31   1   3/8 = 0   3
      31/2 = 15   1
      15/2 = 7   1
      7/2 = 3   1
      3/2 = 1   1
      1/2 = 0   1

F→15   15/2 = 7   1   15/8 = 1   7
          7/2 = 3   1   ~~1/8 = 0~~
          3/2 = 1   1   1/8 = 0   1
          1/2 = 0   1

~~DF→ 13×16^2 + 15×16 = 3328 + 240 = 3568~~

DF→ 13×16^1 + 15×16^0 = ~~3000~~ 208 + 15 = 223
223/2 = 111   1   223/8 = 27   7
111/2 = 55   1   27/8 = 3   3
55/2 = 27   1   3/8 = 0   3
27/2 = 13   1
13/2 = 6   1
6/2 = 3   0
3/2 = 1   1
1/2 = 0   1

81 → 8×16^1 + 1×16^0 = 128 + 1 = 129
129/2 = 64   1   129/8 = 16   1
64/2 = 32   0   16/8 = 2   0
32/2 = 16   0   2/8 = 0   2
16/2 = 8   0
8/2 = 4   0
4/2 = 2   0
2/2 = 1   0
1/2 = 0   1

$$10010011 \rightarrow 1\times2^7 + 0\times2^6 + 0\times2^5 + 1\times2^4 + 0\times2^3 + 0\times2^2 + 1\times2^1 + 1\times2^0$$

$$= 128 + 0 + 0 + 16 + 0 + 0 + 2 + 1 = 147$$

147/8 = 18   3   147/16 = 9   3

18/8 = 2   2   9/16 = 0   9

2/8 = 0   2

$$111111 \rightarrow 1\times2^5 + 1\times2^4 + 1\times2^3 + 1\times2^2 + 1\times2^1 + 1\times2^0 = 32 + 16 + 8 + 4 + 2 + 1$$

$$= 63$$

63/8 = 7   7   63/16 = 3   15

7/8 = 0   7   3/16 = 0   3

$$22 \rightarrow 2\times8^1 + 2\times8^0 = 16 + 2 = 18$$

18/2 = 9   0   18/16 = 1   2

9/2 = 4   1   ~~2/16 = 0~~ 1/16 = 0   1

4/2 = 2   0

2/2 = 1   0

1/2 = 1   1