```c
/*-------------------------------------------------------------------------
-           SE 185: Lab 01 - Getting to Know the 185 Environment          -
-   Name:                                                                 -
-   Section:                                                              -
-   NetID:                                                                -
-   Date:                                                                 -
-------------------------------------------------------------------------*/

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

/*-------------------------------------------------------------------------
-                               Implementation                            -
-------------------------------------------------------------------------*/
int main(int argc, char *argv[])
{
    int number = 2021; // Change the zero to a different number.

    printf("%d", number);
    printf("\n");

    printf("kenschue"); // Change this to your NetID.
    printf("\n");

    return 0;
}
```

```
kenschue@CO1318-17 /cygdrive/u/Fall2021/SE185/Lab01
$ ./lab01-output
2021
kenschue
```

```
kenschue@CO1318-17 /cygdrive/u/Fall2021/SE185/Lab01
$ ./lab01-output | ./lab01-input > NETID.txt
```

```
kenschue@CO1318-17 /cygdrive/u/Fall2021/SE185/Lab01
$ ./lab01
Hello World!
```

```
$ ./lab01-input

Value before input: 0

Type a number: 28
Type your NetID: kenschue
```

```c
/*-----------------------------------------------------------------------------
-           SE 185: Lab 01 - Getting to Know the 185 Environment             -
-   Name: Kenneth Schueman                                                   -
-   Section: 6                                                               -
-   NetID: kenschue                                                          -
-   Date: 9/2/2021                                                           -
-----------------------------------------------------------------------------*/

/*
    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
}
```

```c
/*-----------------------------------------------------------------------------
-           SE 185: Lab 01 - Getting to Know the 185 Environment             -
-   Name:                                                                    -
-   Section:                                                                 -
-   NetID:                                                                   -
-   Date:                                                                    -
-----------------------------------------------------------------------------*/

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

/*-----------------------------------------------------------------------------
-                              Implementation                                -
-----------------------------------------------------------------------------*/
int main(int argc, char *argv[])
{
    /* DO NOT EDIT THIS FILE */
    char net_id[1000];

    int number = 0;

    printf("\nValue before input: %d\n", number);

    printf("\nType a number: ");
    scanf("%d", &number);

    printf("Type your NetID: ");
    scanf("%s", net_id);

    printf("\nYour input was %d ", number);
    printf("and your ISU email is %s@iastate.edu", net_id);

    return 0;
}
```

Decimal → Binary

10 – 0	
5 – 1	
2 – 0	
1 – 1	
42 – 0	
21 – 1	
10 – 0	
5 – 1	
2 – 0	
1 – 1	
255 – 1	
127 – 1	
63 – 1	
31 – 1	
15 – 1	
7 – 1	
3 – 1	
1 – 1	
15 – 1	
7 – 1	
3 – 1	
1 – 1	
223	
111	
55	
27	
13	
6	
3	
1	

Hexadecimal → Decimal

$(F)_{16} = (15 \cdot 16^0) = (15)_{10}$

$(DF)_{16} = (13 \cdot 16^1) + (15 \cdot 16^0) = 223_{10}$

$(81)_{16} = (8 \cdot 16^1) + (1 \cdot 16^0) = (129)_{10}$

Decimal → Octal

$(16)/8 = 1 = 2$

$(1)/8 = 0 = 1$

$(42)/8 = 5 = 2$

$(5)/8 = 0 = 5$

$(255)/8 = 7$

$(31)/8 = 7$

$(3)/8 = 3$

$(15)/8 = 7$

$(1)/8 = 1$

$(223)/8 = 1$

$(29)/8 = 5$

$(3)/8 = 3$

$(129)/8 = 1$

$(16)/8 = 0$

$(2)/8 = 2$

$(147)/8 = 3$

$(18)/8 = 2$

$(2)/8 = 2$

$(63)/8 = 7$

$(7)/8 = 7$

Octal → Decimal

$22 = (2 \cdot 8^1) + (2 \cdot 8^0) = 18$

Binary → Decimal

$(10010011)_2 = (1 \cdot 2^7) + (0 \cdot 2^6) + (0 \cdot 2^5) + (1 \cdot 2^4) + (0 \cdot 2^3) + (0 \cdot 2^2) + (1 \cdot 2^1) + (1 \cdot 2^0) = 147_{10}$

$(111111)_2 = (1 \cdot 2^5) + (1 \cdot 2^4) + (1 \cdot 2^3) + (1 \cdot 2^2) + (1 \cdot 2^1) + (1 \cdot 2^0) = 63_{10}$

Kenneth Schuemer
#6 SE185

Decimal	Binary	octal	Hexadecimal
1	00000001	1	1
10	0101	12	A
42	010101	52	2A
255	11111111	377	FF
15	1111	17	F
223	11011111	351	DF
129	10000001	201	81
147	10010011	223	93
63	111111	77	3F
18	10010	22	12