

Faysal Khatri
CSC220 -- Activity 4
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Part 1

```
#include <stdio.h>

int main() {
    int myint = 5;
    float myfloat = 8.9;
    char mystring[] = "Hello";

    struct mystruct {
        int structInt;
        int structArr[5];
    };

    struct mystruct a;
    struct mystruct* aPtr;
    aPtr = &a;
    a.structInt = 7;

    int* intPtr = &myint;
    char* stringPtr = mystring;

    printf("variable \t\t value \t\t address \t\t size\n");
    printf("myint \t\t\t%d\t\t\t%p\t\t\t%d\n", myint, &myint, sizeof(myint));
    printf("myfloat \t\t\t%f\t\t\t%p\t\t\t%d\n", myfloat, &myfloat, sizeof(myfloat));
    printf("mystring \t\t\t%s\t\t\t%p\t\t\t%d\n", mystring, &mystring, sizeof(mystring));
    printf("a (structure) \t\t\t%d\t\t\t%p\t\t\t%d\n", a, &a, sizeof(a));
    printf("intPtr \t\t\t%p\t\t\t%p\t\t\t%d\n", intPtr, &intPtr, sizeof(intPtr));
    printf("stringPtr \t\t\t%p\t\t\t%p\t\t\t%d\n", stringPtr, &stringPtr, sizeof(stringPtr));
    printf("aPtr \t\t\t%p\t\t\t%p\t\t\t%d\n", aPtr, &aPtr, sizeof(aPtr));

    printf("Value of myint: %d\n", *intPtr);
    printf("Value of struct: %d\n", *aPtr);

    return 0;
}
```

Sample Output

```
faysal@DESKTOP-AOGE5FF:/mnt/c/Users/faysa/Dropbox/School/CSC220/Activity4$ ./act4
variable          value          address          size
myint              5              0x7fffffff423520 4
myfloat            8.900000      0x7fffffff423524 4
mystring           Hello          0x7fffffff423560 6
a (structure)      -12438208      0x18              36
intPtr             0x7fffffff423520 0x7fffffff423530 8
stringPtr          0x7fffffff423560 0x7fffffff423538 8
aPtr               0x7fffffff423540 0x7fffffff423528 8
Value of myint: 5
Value of struct: 2147483630
```

NOTE: I don't know what is going on with the address of a, which is my instantiated structure. Even if I read aPtr there, I get 0x18.

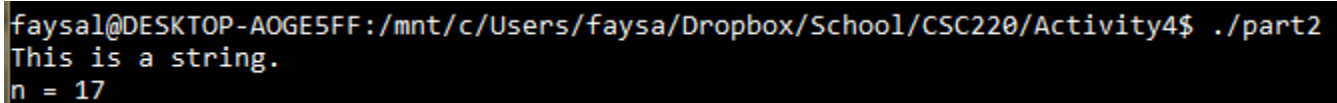
Part 2

```
#include<stdio.h>
#include<string.h>

int main () {
    int n=0, len;
    char str[ ] = "This is a string.";
    len = strlen(str);
    char* strPtr;
    strPtr = &str;

    for( n=0; n<len; n++)
        putc( *(strPtr+n), stdout);
    printf("\nn = %d\n", n);
}
```

Sample Output

A terminal window with a black background and white text. The prompt is 'faysal@DESKTOP-AOGE5FF:/mnt/c/Users/faysa/Dropbox/School/CSC220/Activity4\$'. The command './part2' has been executed. The output consists of two lines: 'This is a string.' and 'n = 17'.

```
faysal@DESKTOP-AOGE5FF:/mnt/c/Users/faysa/Dropbox/School/CSC220/Activity4$ ./part2
This is a string.
n = 17
```