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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%d\n", myint, &myint, sizeof(myint));
  printf("myfloat \t\t%f\t\t%p\t\t%d\n", myfloat, &myfloat, sizeof(myfloat));
  printf("mystring \t\t%s\t\t\t%p\t\t%d\n", mystring, &mystring, sizeof(mystring));
  printf("a (structure) \t\t%d\t\t%p\t\t\t%d\n", a, &a, sizeof(a));
  printf("intPtr \t\t\t%p\t\t%p\t\t%d\n", intPtr, &intPtr, sizeof(intPtr));
  printf("stringPtr \t\t%p\t\t%p\t\t%d\n", stringPtr, &stringPtr, sizeof(stringPtr));
  printf("aPtr \t\t\t%p\t\t%p\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                      0x7fffff423520          4
myfloat                  8.900000               0x7fffff423524          4
mystring                 Hello                  0x7fffff423560          6
a (structure)            -12438208              0x18                    36
intPtr                   0x7fffff423520         0x7fffff423530          8
stringPtr                0x7fffff423560         0x7fffff423538          8
aPtr                     0x7fffff423540         0x7fffff423528          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

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