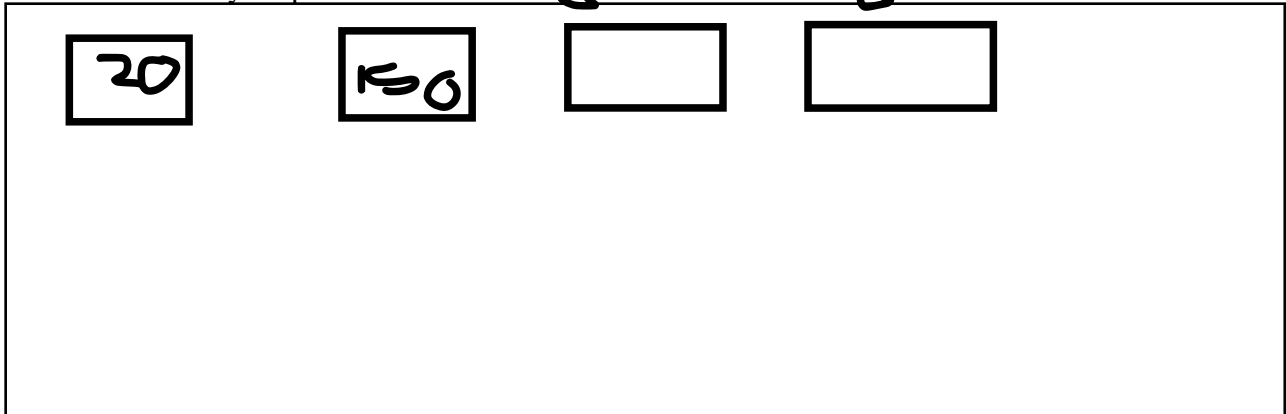


C Pointers and Pointer Arithmetic Worksheet

Use the following memory diagram and initializing code. For each of the following expressions give both the data type of the entire expression and the value of each (if an expression is impossible simply enter "error"). Remember an int is 4 bytes and a pointer is 8 bytes for this worksheet.

| <u>Name</u> | <u>Address</u> | |
|-------------|----------------|--------------------|
| var1 | 0xf120 | int var1 = 20; |
| var2 | 0xf124 | int var2 = 150; |
| var3 | 0xf128 | int *var3 = &var1; |
| var4 | 0xf130 | int *var4 = &var1; |

Draw the memory map for the stack below



Expression

Type

Value

*(&var2)

int

150

& (*var3)

int*

0xf120

(*var3) - 1

&var3

var3 = var3 + 1

int*

0xf124

*var3

int

150 (Considering the last one) var 2

*var3 = *var3 + 1

int

151

var3 = var3 + 1

int*

0xf128

*var3

int

& (*var2)