Quiz 3 Question 3

Imagine that you have an unsorted collection of items (maybe they're notes for class, or a collection of old receipts) that you expect you'll need to search. When might it make more sense to sort the collection of items first before searching, and when might it make more sense to leave the collection unsorted?

Hint: Consider algorithmic efficiency. What's the cost (i.e., running time) of linear search? Of binary search? Of sorting?

Hexdecimal

Decimal	Binary	Hexadecimal
5		
	101101	
		0x78A

Pointers

```
int m;
```

m

```
int m;
int *a;
```

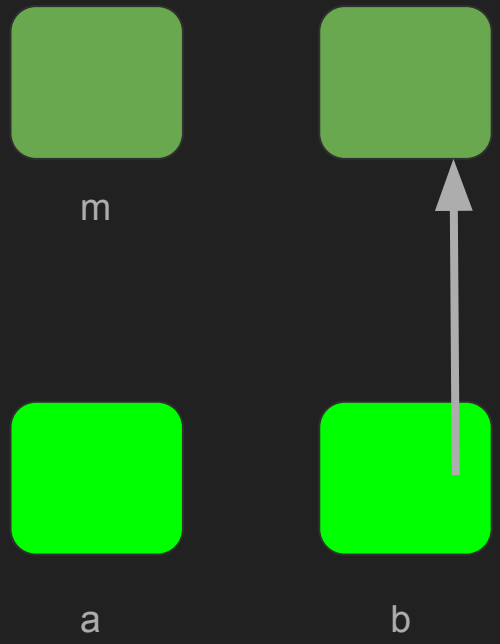
m

```
int m;
int *a;
int *b = malloc(sizeof(int));
```

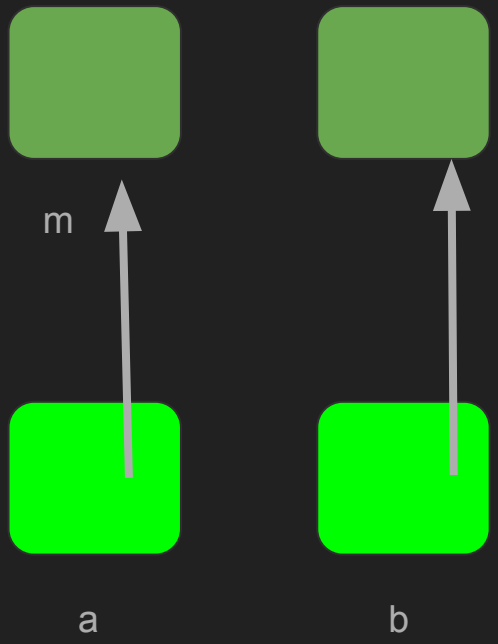
m

a

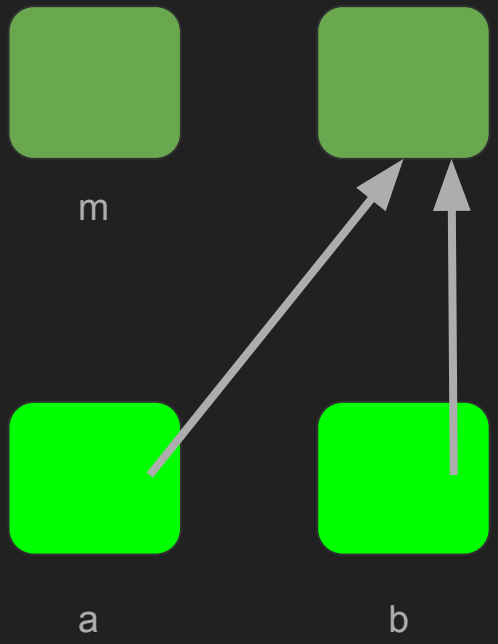
```
int m;
int *a;
int *b = malloc(sizeof(int));
a = &m;
```



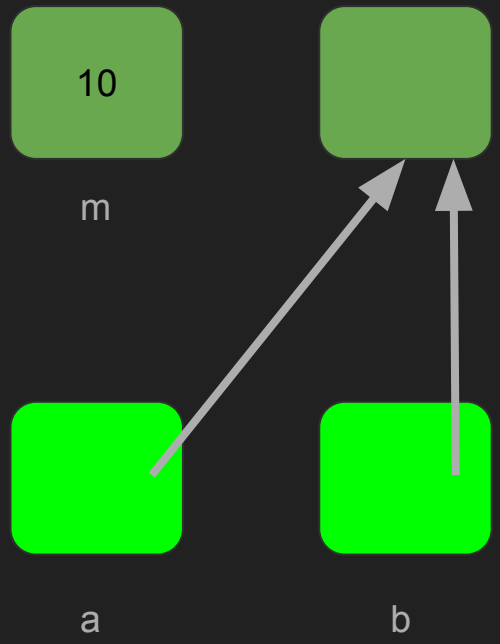
```
int m;
int *a;
int *b = malloc(sizeof(int));
a = &m;
a = b;
```



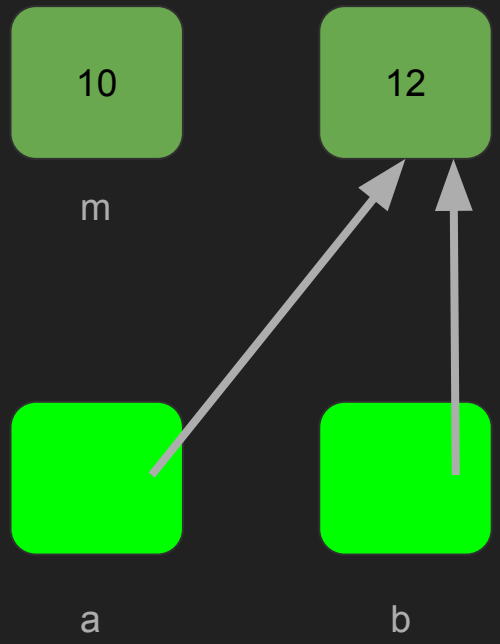
```
int m;
int *a;
int *b = malloc(sizeof(int));
a = &m;
a = b;
m = 10;
```



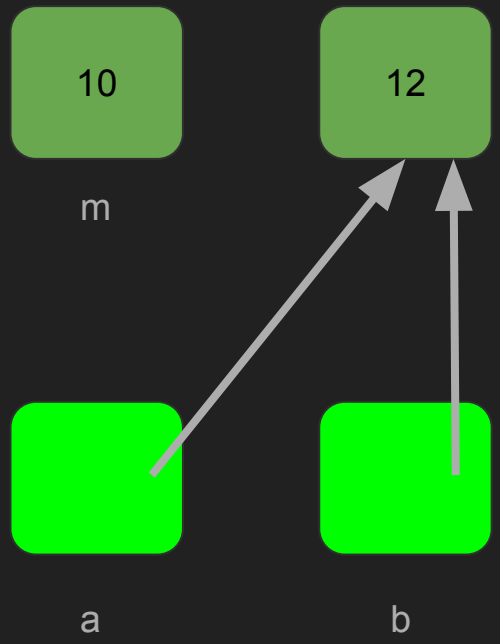
```
int m;
int *a;
int *b = malloc(sizeof(int));
a = &m;
a = b;
m = 10;
*b = m + 2;
```



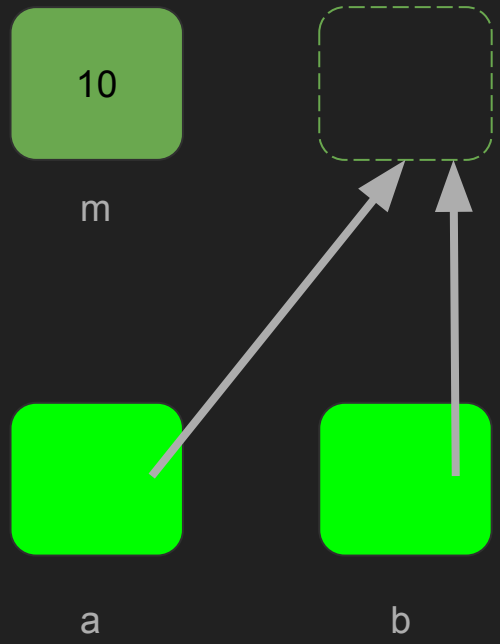
```
int m;
int *a;
int *b = malloc(sizeof(int));
a = &m;
a = b;
m = 10;
*b = m + 2;
```



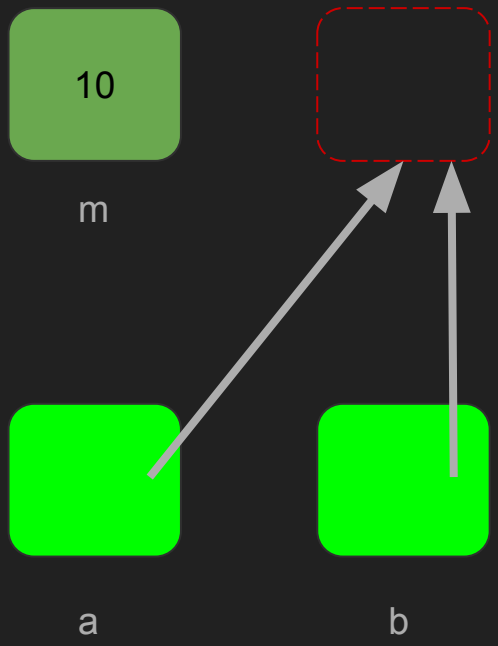
```
int m;
int *a;
int *b = malloc(sizeof(int));
a = &m;
a = b;
m = 10;
*b = m + 2;
free(a);
```



```
int m;
int *a;
int *b = malloc(sizeof(int));
a = &m;
a = b;
m = 10;
*b = m + 2;
free(a);
```



```
int m;
int *a;
int *b = malloc(sizeof(int));
a = &m;
a = b;
m = 10;
*b = m + 2;
free(a);
*b = 11;
```



File I/O

```
size_t fread(void *ptr, size_t size, size_t nmemb, FILE *stream);
```

fread() reads `nmemb` items of data, each `size` bytes long, from the file `stream`, storing them into `ptr`

```
size_t fwrite(const void *ptr, size_t size, size_t nmemb, FILE *stream);
```

fread() writes `nmemb` items of data, each `size` bytes long, to the file `stream`, from `ptr`