

8. POINTERS (AND ARRAYS)

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Review

Recursion (**mergesort.c**)

Data Types

Overview



Pointers and Arrays

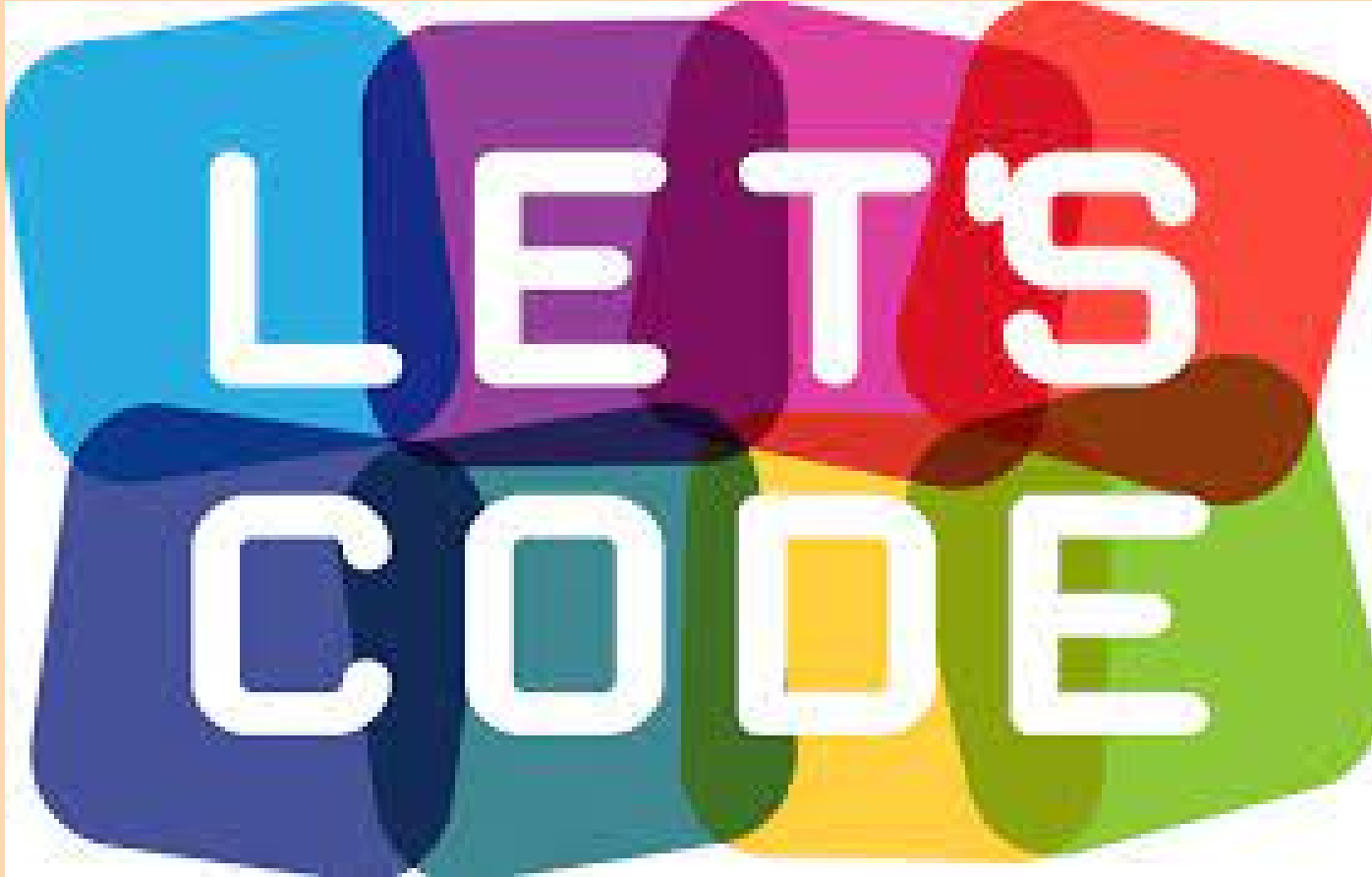
Overview



Pointer

stackoverflow.com

**Pointers in Java -
Stack Overflow**



radius.c

selection-sort.c

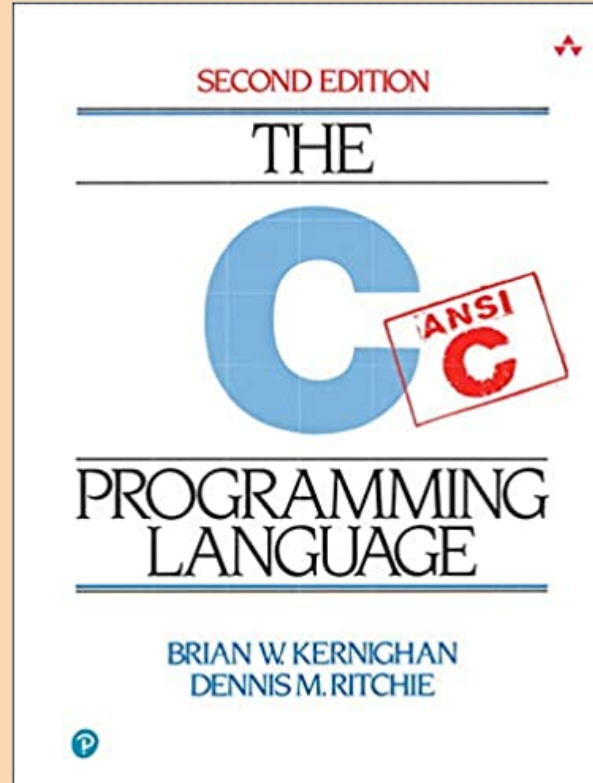
~~merge.c~~

Variables (**radius.c**)

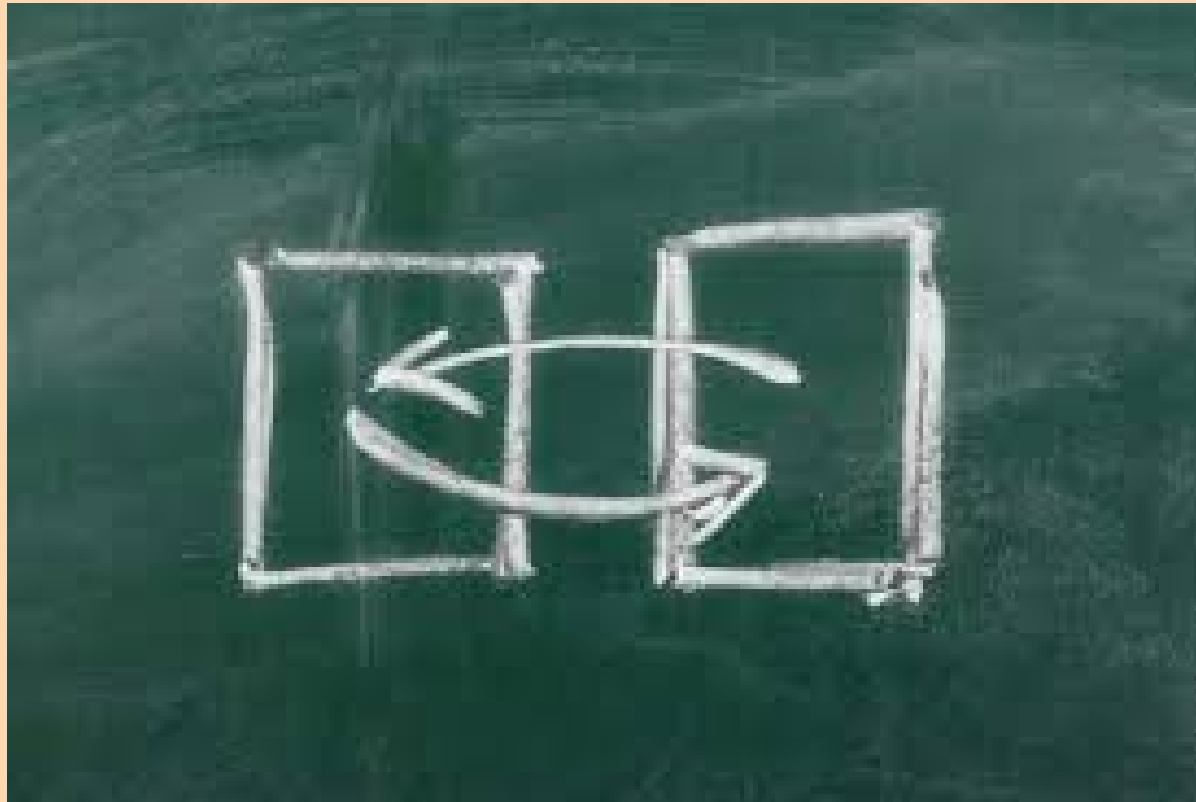
A **variable** has its *type*, *value*, and *address*.

A **variable** can be used as a *lvalue* or a *rvalue*.

"A *pointer* is a *variable* that contains the *address* of a variable."



Swap (**selection-sort.c**)



Pointers and Arrays (**selection-sort.c**)

- In **expressions**, the **name** of an array is a synonym for the **address of its first element**.
- But an array name is **NOT** a variable.

Dynamic Memory Management

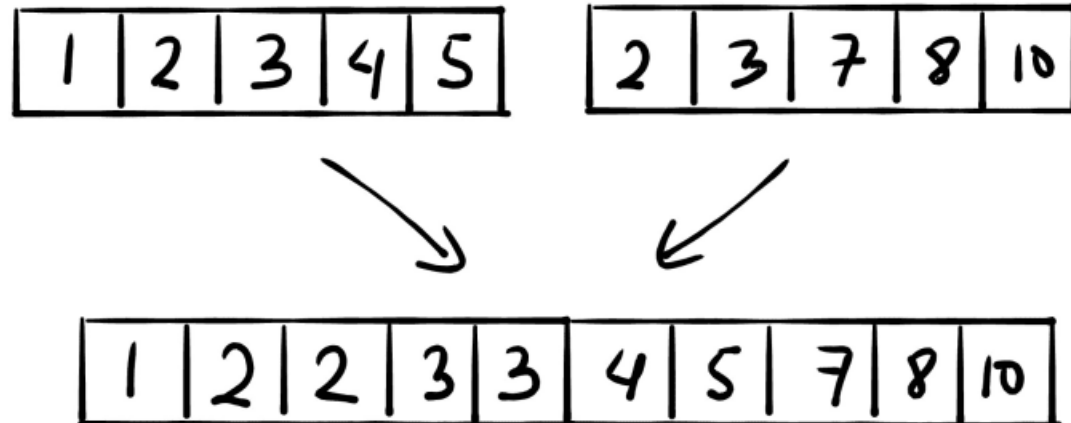
(selection-sort.c)

void *malloc(size_t size);

void free(void *ptr);

Returning Pointers from Functions (merge.c)

Merge Two Sorted Arrays



Returning Multiple Values from Functions (**scanf.c**)

```
while (scanf("%d", &numbers[++len]) != EOF);
```

