

VSCode: Open Project -> View Terminal -> npm run pull -> npm start

Quiz 2 Review

Lecture 15

“The Rising / Signed, Sealed, Delivered I’m Yours”

Announcements

- Tamagotchi Beats Part 1 due tonight!!
- Tutoring tonight 6-8 in SN014
- Review session **Thursday** 5-6 in **FB007**
 - Note room change for this week only!
 - Sorry for the typo in Monday's slides...
- Quiz Friday!

Warmup: What are a's elements after this code completes?

```
let a = [10, 20];  
let i = a.length;  
while (i <= a.length) {  
    a[i] = 30;  
    i++;  
}
```

What are a's elements?

```
let a: number[] = [];  
let i = 0;  
  
while (i < 4) {  
    let n = i + 1;  
    if (i === 0) {  
        a[i] = n;  
    } else {  
        a[i] = a[i - 1] * n;  
    }  
    i++;  
}
```

What are **b**'s elements?

```
let a: string[] = ["drop", "flip", "it"];
let b: string[] = [];
let i = 0;

while (i < a.length) {
    b[i] = a[a.length - i - 1];
    i++;
}
```

1. Trace the code to the left supposing that the values in each set of inputs are assigned to `lana`, `del`, and `rey`, respectively. Fill the boxes with the print outputs generated in the order in which they appear. Note that not every box may be filled.

```
1 let lana: boolean = await promptBoolean("summer");
2 let del: string = await promptString("time");
3 let rey: number = await promptNumber("sadness");
4 if (!lana) {
5     if (del === "rey") {
6         print("A");
7     } else {
8         print("B");
9     }
10    print("C");
11 }
12 if (rey > 2) {
13     rey = rey - 2;
14     if (rey < 2) {
15         print("D");
16     }
17     print("E");
18 } else {
19     print("F");
20     if (del === "del") {
21         print("G");
22     }
23 }
```

1.6 Inputs: false, "lana", -50

--	--	--	--	--

3.2 -

```
1 let j = 0;
2 let i = 0
3 while (j % 2 === 0) {
4   if (i < 3) {
5     j += 2;
6   } else {
7     j += 1;
8   }
9   i++;
10  print(j);
11 }
```

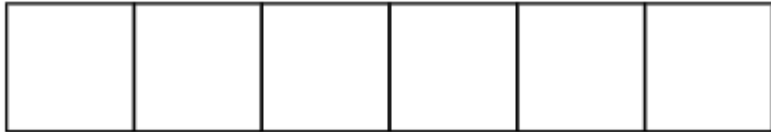


Aside: Testing if a Number is Even or Odd

- Spot the pattern:
 - $0 \% 2 \rightarrow 0$
 - $1 \% 2 \rightarrow 1$
 - $2 \% 2 \rightarrow 0$
 - $3 \% 2 \rightarrow 1$
 - $4 \% 2 \rightarrow 0$
- Every **even** number $\% 2 === 0$
- Every **odd** number $\% 2 === 1$

3.4 -

```
1 let a: number[] = [3, 1, 6, 8, 9];
2 let i: number = a.length - 1;
3 while (i >= 0) {
4     if (a[i] % 3 === 0) {
5         if (i > 0) {
6             a[i] = i ** 2;
7         } else {
8             a[i] = 2 ** a[i];
9         }
10    } else {
11        a[i]++;
12    }
13    i--;
14 }
15 print(a);
```



4.2 toFill

```
1 let x: number[] = [2, 0, 4, 3];
2 let toFill: number[] = [];
3 let i: number = 0;
4 while (i < x.length) {
5     if (i % 2 === 0) {
6         toFill[i] = x[i];
7     } else {
8         toFill[x[i]] = i;
9     }
10    i++;
11 }
```

