

Practice Problems 4.1

Introduction to Loops

WHAT IS THE VALUE?

Each program is an example of each type of loop covered today. Assuming num begins as 0 in each problem, what is the value of num after each loop?

- | | |
|---|-------------------------------|
| 1) while (num < 8) {
num++;
} | <u>1, 2, 3, 4, 5, 6, 7, 8</u> |
| 2) for (int i = 0; i < 5; i++) {
num++;
} | <u>5</u> |
| 3) do {
num++;
} while (num < 8); | <u>8</u> |
| 4) while (num > 8) {
num++;
} | <u>0</u> |
| 5) do {
num++;
} while (num > 9); | <u>1</u> |

PRACTICE PROGRAMMING

6) Write a code snippet that finds and prints the sum of all the ints from 1 through 20 using only a while loop.

```
while (int i < 20) {  
    sum + i; }
```

7) Write a code snippet that finds and prints the sum of all the ints from 1 through 20 using only a for loop.

```
for (int i = 0; i < 20; i++) {  
    sum = sum + i; }
```

8) Write a code snippet that finds and prints the sum of all the ints from 1 through 20 using only a do-while loop.

```
do {  
    sum = sum + i;  
} while (i < 20);
```

9) For finding the sum, discuss which loop makes the most sense.

A **while loop** makes the most sense because you are repeating the process over and over again and there isn't another option. You either are summing the int or you aren't.