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Week 2 Research Assignment

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What are the different loops Java provides us with?

The different Loops we use in Java are the **for** loop, the **while loop**, and the **do while** loop.

What is the syntax of one of the loops in your above answer? How and when should you use this loop? Give an example.

The for loop should be used when you know how many times you need to repeat a block of statements or code.

The for loop uses the following syntax:

```
for(initialization expression(s) ; test-expression ; update-expression(s))
{
body of the loop ;
}
```

So for example we can write a program to go through the while loop 10 times using the following code:

```
for(int i = 0; i < 10; i++)
{
System.out.println(i);
}
```

Which will give the following output:

```
0
1
2
3
4
5
6
7
8
9
```

What is the syntax of another one of the loops in your above answer? How and when should you use this loop? Give an example.

The while loop should be used when you need a block of code to be repeated until a specific condition has been met,

Another Loop we use in Java is the While Loop which uses the following syntax:

while(test-expression)
loop-body

So for example we can write a program that only goes through the loop while the condition is being met.

```java
int a = 1;
while (a <= 4)
{

        System.out.println("I am currently on the " + a + " Loop");
        a++;

}
```
And the output would be:

```
I am currently on the 1 Loop
I am currently on the 2 Loop
I am currently on the 3 Loop
I am currently on the 4 Loop
```

References:

https://techvidvan.com/tutorials/java-loops/

https://www.javatpoint.com/java-do-while-loop#:~:text=The%20Java%20do%2Dwhile%20loop,called%20an%20exit%20control%20loop.