

Day 8 - JS Loop

Increment & Decrement

Increment

`i = 1`

`i++`

Decrement

`j = 5`

`j--`

For Loop

For loop is often the tool you will use when you want to create a loop.

```
for(statement 1; statement 2; statement 3) {  
    do something  
}
```

For Loop

```
text = "";
```

```
for (i = 0; i < 5; i++) {  
    text += "The number is " + i + "<br>";  
}
```

```
document.querySelector('#result').innerHTML = text;
```

While Loops

the while loop will repeatedly check its conditional expression and continue to run its code block as long as it evaluates to true

```
while ([condition]) {  
    do something  
}
```

While Loops

```
var n = 0;
```

```
console.log("I am called the Count... because I really  
love to count!")
```

```
while (n < 10) {  
    console.log(n, "ha-ha-ha")  
    n++  
}
```

```
console.log('fin!')
```

While Loops

```
var n = 100, song = ""
```

```
while ( n >= 0 ) {  
    if ( n !== 0 ) {  
        song += n + " what do you mean, oohh"  
    } else {  
        song += " -justin bieber song"  
    }  
    n--  
}
```

```
document.querySelector('#lyrics').textContent = song
```

While Loops

```
var n = 100, song = "", element = "<ul>"

while ( n >= 0 ) {
    if ( n !== 0 ) {
        song += "<li>" + n + " what do you mean, oohh </li>"
    } else {
        song += "<li> -justin beber song</li>"
    }
    n--
}

element += "</ul>"

document.querySelector('#lyrics').innerHTML = song
```


Exercise: Fencepost Loop

1. Create a variable `n` and assign it an number.
2. Code a while loop that builds as a single string, the numbers 1 through `n`, separated by commas
3. How can we make sure not to have a comma after the last number? e.g., for `n = 9` print "1, 2, 3, 4, 5, 6, 7, 8, 9"
4. Use `.textContent` to place that string into a `div#target` in the HTML document.
5. Now change your code to create a string full of `<p>` tags, with the number inside, and with `<hr>` dividers between them (but not after the last one), and use `.innerHTML` to place them into the page.
6. Give odd numbers a class of "odd", even numbers a class of "even." Have a css rule inside your `<style>` tag that styles them differently.

Math Object

```
> Math.PI  
> Math.pow(9, 2)  
> Math.random()  
> Math.floor(7.2)  
> Math.ceil(7.2)  
> Math.ceil( Math.random() * 10 )
```

While Loops

```
var n = 1, sum = 0
```

```
while ( n <= 10 ) {  
    sum = sum + n  
    n++  
}
```

```
console.log("The sum of the numbers 1 through " + (n - 1)  
+ " is " + sum)
```

```
// Why n - 1 ?
```

While Loops

```
var input
```

```
while( !(input = prompt('write something...')) ){  
    console.log("you didn't write anything")  
}
```

```
console.log("yay, you did it! you wrote: " + input)
```

Exercise: Write code to play rock, paper, scissors with the user.

1. Ask for input until the user enters either "R", "P", or "S"
2. Use `Math.random()` to choose a play for the computer
3. Tell the user what the outcome was
4. Ask the user if they'd like to play again
5. Enter R
6. System convert rock = 1
7. System generate number between 1-3
8. Validate 2 value (dari user sama dari system) pakai IF
9. Alert si user mereka menang atau kalah