

Infinite Loops (Teacher Version)

Corresponding Material

JavaScript Control Structures, Lesson 9: While Loops

Discussion

For loops and while loops are very powerful tools in programming. But like all tools, loops can cause some serious problems in your program if not handled correctly. One particular problem that can cause a program to freeze or crash is the presence of an ***infinite loop***.

Infinite Loops

A loop is considered infinite if it doesn't end. This can be caused by having no ending condition at all, an ending condition that is impossible to meet, or using an ending condition that causes the loop to start over.

If an infinite loop is used in a program, it will likely cause the program to crash. When run, the program will enter the loop, but will never exit the loop.

Class Exercise

Which of the programs below contain an infinite loop? Circle the programs with infinite loops: (Infinite loops are shaded green)

```
while(True){
  println("hello!");
}
```

```
for(var i = 0; i < 5; i++){
  println("loop");
}
```

```
for(var i = 0; i <= 99; i++){
  i = i + 3;
  println("super");
}
```

```
for(var i = 0; i < 10; i++){
  println(i);
  i = i - 1;
}
```

```
var x = 0;
while(x != 50){
  println("CodeHS");
  x = x + 9;
}
```

```
var x = 0;
while(x < 10){
  println(x);
  x += 2;
}
```

```
for(var i = 0; i <= 3; i){
  println(i);
}
```

```
var x = 0
while(x < 10){
  println("coding");
}
```