CS 106: Web Technology - I Assignment #5

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1 Introduction to Control Flow Statements

JavaScript supports a compact set of statements, specifically control flow statements, that you can use to incorporate a great deal of interactivity in your application.

1.1 Block Statements

The most basic statement is a block statement, which is used to group statements. The block is delimited by a pair of curly brackets:

```
{
    statement1;
    statement2;
    // ...
    statementN;
}
```

Here statement1 through statementN are block statements.
Block statements are commonly used with control flow statements (if, for, while).

```
while (x < 10) {
  x++; // block statement
}
```

1.2 Conditional Statements

A conditional statement is a set of commands that executes if a specified condition is true. JavaScript supports two conditional statements: if...else and switch.

1.2.1 if. . . else statements

```
if (condition) {
    statement1;
    } else {
    statement2;
    }
```

```
if (condition1) {
  statement1;
} else if (condition2) {
  statement2;
} else if (conditionN) {
  statementN;
} else {
  statementLast;
}
```

The following values evaluate to false:

1. false

2. undefined

3. null

4. 0

5. NaN

6. the empty string ("")

1.2.2 switch Statement

```
switch (expression) {
  case label1:
    statements1;
    break;
  case label2:
    statements2;
    break;
  // ...
  default:
    statementsDefault;
}
```

1.3 Loops and Iteration

1. for statement

2. do...while statement

3. while statement

4. labeled statement

5. break statement

6. continue statement

7. for...in statement

8. for...of statement

```
for ([initialExpression]; [conditionExpression]; [incrementExpression])
  statement
```

```
do
  statement
while (condition);
```

```
while (condition)
  statement
```

Other Statements

```
continue;
continue label;

for (variable in object)
  statement


for (variable of object)
  statement
```
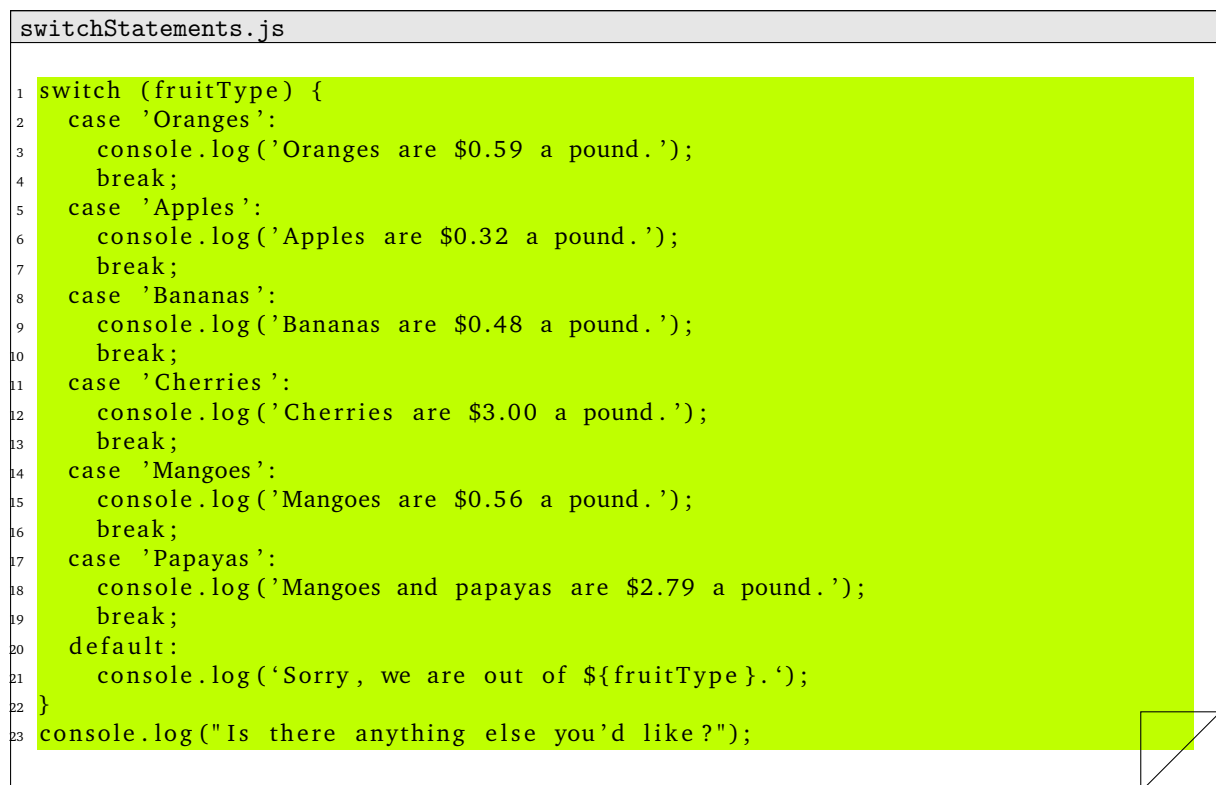
2   Lab Objectives

The lab Objectives are:

1. To understand the basic control statements in JS.

2. To understand the basics loops and iteration statements in JS.

3   Examples

```
switchStatements.js
```

```javascript
1  switch (fruitType) {
2    case 'Oranges':
3      console.log('Oranges are $0.59 a pound.');
4      break;
5    case 'Apples':
6      console.log('Apples are $0.32 a pound.');
7      break;
8    case 'Bananas':
9      console.log('Bananas are $0.48 a pound.');
10     break;
11   case 'Cherries':
12     console.log('Cherries are $3.00 a pound.');
13     break;
14   case 'Mangoes':
15     console.log('Mangoes are $0.56 a pound.');
16     break;
17   case 'Papayas':
18     console.log('Mangoes and papayas are $2.79 a pound.');
19     break;
20   default:
21     console.log('Sorry, we are out of ${fruitType}.');
22 }
23 console.log("Is there anything else you'd like?");
```

```
loops.js
24  for (let step = 0; step < 5; step++) {
25    // Runs 5 times, with values of step 0 through 4.
26    console.log('Walking east one step');
27  }
28
29
30  let i = 0;
31  do {
32    i += 1;
33    console.log(i);
34  } while (i < 5);
35
36
37  let n = 0;
38  let x = 0;
39  while (n < 3) {
40    n++;
41    x += n;
42  }
```

3.0.1   Breaking to a label

```
let x = 0;
let z = 0;
labelCancelLoops: while (true) {
  console.log('Outer loops: ', x);
  x += 1;
  z = 1;
  while (true) {
    console.log('Inner loops: ', z);
    z += 1;
    if (z === 10 && x === 10) {
      break labelCancelLoops;
    } else if (z === 10) {
      break;
    }
  }
}
```

4   Questions

ⓘ **Info:** Questions Are Coming. Please recheck after sometime. First work on examples.