3   Assignment Day 3: Procedures & selections

1. To sum the integer numbers from 1 to 6 we could do something like:

```
sum = 0
for i from 1 to 6
    sum = sum + i
endfor
writeInfoLine: "The sum from 1 t/m 6 is ", sum
```

The trick is the use an accumulator variable: sum.
To get the mean value we only have to divide this sum by the number of values that were summed. Abstract this to a procedure with two arguments, a starting value and an end value, that calculates the mean of all the numbers between these two values. Test the procedure by using a form that queries for the two numbers and print the mean to the info window. (Please use the for-loop for summing and the fact that there is a faster way to calculate this sum).

2. Given the following script:

```
procedure playHarmonic: .fundamentalFrequency, .index
    .frequency = .index * .fundamentalFrequency
    Create Sound as pure tone: "toon", 1, 0, 1,
    ... 44100, .frequency, 0.5, 0.01, 0.01
    Play
    Remove
endproc
@playHarmonic: 220, 2
@playHarmonic: 440, 1
```

What are the frequencies of the tones played?

   (a) 220, 220 Hz
   (b) 220, 440 Hz.
   (c) 440, 880 Hz
   (d) 440, 440 Hz

3. Create a script that make two tones, each tone with a different frequency and then. Use the ID variable of the tones to play and remove them.

4. Script: Create two tones, one has frequency 500 Hz, the other 505 Hz with a minimum duration of 2 s. Select them together combine them to a stereo sound (Combine > Combine to stereo). Remove the two separate tones. Listen to the combined sound, first with each ear separately then together. Do you hear the beats?

5. Script: Create ten tones with frequencies 300, 400, ..., 1200 Hz. Give them a names that shows the frequency of the tone. Select them together and concatenate them to one sound. Then remove the ten separate tones.
Hint: Study scripting 5.6 and use an array variable for the ID's of the tones.

6. The function `randomInteger(start, end)` returns a random integer value from the interval [start, end].

```
for i to 10
    random = randomInteger (1,3)
    appendInfo: random, " "
endfor
```