**Introduction:**

In this project you will use samples to create a drum loop, including an intro and outro.

**Step 1: The intro**

Let’s start by creating a short intro to the drum loop.

**Activity Checklist**

- Start by adding the `:drum_tom_hi_hard` sample. If you start typing, you should be able to choose the sample from the list that appears.

Here’s how your code should look:

```r
#intro
sample :drum_tom_hi_hard
```

- Here’s how your code should look:

The line above the sample starting with `#` is a comment. These lines are ignored by Sonic Pi, but are useful for when we want to remind ourselves what our code does!
Press run, and you should hear your drum sample.

Add 2 more drum samples, so that they go from high to low. You'll also need to `sleep` for 1 beat between each sample.

If you run your intro again, you'll hear that it's quite slow. You can add code to change the beats per minute (`bpm`) – the speed) of the music.

Finally, add a `sleep` and a `:drum_splash_hard` sample at the end of the intro.
Step 2: The drum loop

Now that you have an intro, let’s code the main drum loop!

Activity Checklist

- The drum loop will be made up of 4 samples, alternating the bass (the lower drum sound) and snare (the higher drum sound).

Add this code after your intro:

```python
use_bpm 120

#intro
sample : drum_tom_hi_hard
sleep 1
sample : drum_tom_mid_hard
sleep 1
sample : drum_tom_lo_hard
sleep 1
sample : drum_splash_hard
```

Test your intro again. You should now hear 3 drums, followed by a cymbal.
Test your drum loop. You should hear 4 drum beats after your intro.

You can repeat your drum loop by adding `4.times do` before your drums and `end` at the end.

Play your drums again, and you’ll notice that they don’t quite sound right. That’s because you need to add a `sleep` after the final drum in the loop.
Test your code again. This time you should hear your 4 drum beats repeat 4 times.

To make your drum loop a little more interesting, you can play the second bass drum twice, for just 0.5 beats each.

Test your code again. You should hear a different rhythm.
Step 3: The outro

Let’s add an ending to the drum loop.

✅ Activity Checklist

☐ Add the :drum_cymbal_open sample at the end of your code, outside of the loop.

```java
sample :drum_snare_hard
sleep 1
end

#outro
sample :drum_cymbal_open
```

☐ Press run to test your code. It doesn’t sound very interesting, so let’s also add a :drum_snare_hard sample.

```java
#outro
sample :drum_cymbal_open
sample :drum_snare_hard
```

☐ Test your code. Notice that there’s no sleep between the 2 outro samples, so they’ll play at the same time.

Save your project

Challenge: Create your own drum loop

Can you use what you’ve learnt to create your own drum loop? Here are some ideas to help you:
You could change the drum samples used in your intro or outro. To see what samples are available, you can go to `jumpto.cc/sonic-pi-samples`, or just type `sample :drum` and choose from the list that appears.

You could experiment by adding more drums to your drum loop, that play for a shorter time:

```
#intro
sample :drum
```

You could also play around with the `sleep` s between drums. Here are some examples you can try:
Save your project