Intermediate Game Production

using Scratch 1.4

Adding Sound

By the end of each task I should know how to...
Task 1 - add a simple sound to a script
Task 2 - make a sound play when sprites touch
Task 3 - add background music to scratch.

Adding Sound

Scratch has several ways of playing/adding sounds to a project.

`play sound ▼`
`play sound ▼ until done`
`stop all sounds`

These blocks allow you to record your own sounds using a microphone or Import a saved sound file.
Note that Scratch comes with many pre-saved sounds.

`play drum 48▼ for 0.2 beats`
`rest for 0.2 beats`

Drum beats of different pitches can be added. The speed of the beat can be changed or pauses added.

`play note 60▼ for 0.5 beats`
`set instrument to 1▼`

The note blocks allow tunes to be added to your game. Look on the Internet for tunes (eg E D# E D# E D C A).

`change volume by -10`
`set volume to 100 %`
`☐ volume`

You may want a sudden burst of sound in your game. The volume can be changed using these blocks.

`change tempo by 20`
`set tempo to 60 bpm`
`☐ tempo`

The tempo is the speed the sound plays at. Slow it down, speed it up or set it to a specific number of beats per minute (bpm).

Where you add the sound will be important. If you want background music add the blocks to the stage. If you want to add a sound to an event (like two sprites touching) think of where the sound blocks should be attached.

You should attempt **at least one** of the tasks below. Remember - these tasks are designed to make you solve problems yourself. Do not look at the solutions unless you absolutely have to!

Task 1 - Add a sound that is only played when the fish changes direction.

Task 2 - Add a sound that is played when the shark catches the fish.

Task 3 - Find the musical notes for a well known tune and create a backing track for your game. Sources of piano music could be the Internet, your home or the Music Department.

Adding Sound (solutions)

Task 1

First Import a sound into the fish sprite.

```
when [flag] clicked
go to x: 0 y: 0
forever
    turn ↻ (pick random 1 to 359) degrees
    play sound DrumBuzz▼
    repeat 100
        move 2 steps
        if on edge, bounce
```

Add a sound under the turn block to make the sound play after the fish has turned.
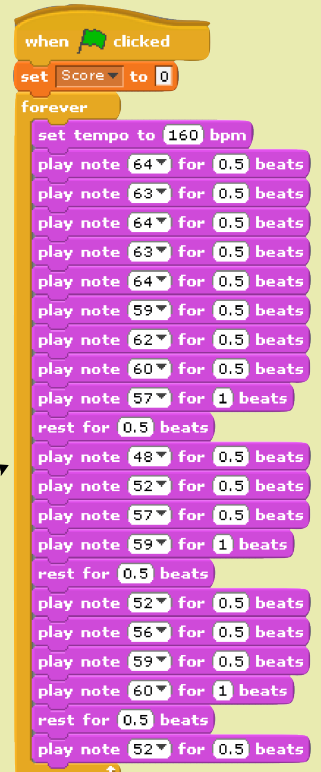
Note - if the block was placed inside the repeat loop it would play all the time. Try moving the block inside the repeat loop to see why this is wrong.

Task 2

First Import a sound into the shark sprite.

```
when [flag] clicked
forever
    glide 1 secs to x: mouse x y: mouse y
    if < touching Sprite2▼ ? >
        change Score▼ by 1
        switch to costume shark1-b▼
        play sound CymbalCrash▼
        wait 0.2 secs
        switch to costume shark1-a▼
```

Add the sound inside the shark's IF - touching block.

```
when [flag] clicked
set Score▼ to 0
forever
    set tempo to 160 bpm
    play note 64▼ for 0.5 beats
    play note 63▼ for 0.5 beats
    play note 64▼ for 0.5 beats
    play note 63▼ for 0.5 beats
    play note 64▼ for 0.5 beats
    play note 59▼ for 0.5 beats
    play note 62▼ for 0.5 beats
    play note 60▼ for 0.5 beats
    play note 57▼ for 1 beats
    rest for 0.5 beats
    play note 48▼ for 0.5 beats
    play note 52▼ for 0.5 beats
    play note 57▼ for 0.5 beats
    play note 59▼ for 1 beats
    rest for 0.5 beats
    play note 52▼ for 0.5 beats
    play note 56▼ for 0.5 beats
    play note 59▼ for 0.5 beats
    play note 60▼ for 1 beats
    rest for 0.5 beats
    play note 52▼ for 0.5 beats
```

Task 3

To add a backing track, add the sound blocks to the stage and place them inside a forever loop so that they keep playing all the time the game is being played.

The example plays the well known tune Für Elise.

Note - if you understand sheet music you could alter the length of each note by changing the length of the beats.