Thunkable

Thunkable is a drag-and-drop programming environment for making fully native apps that run on iOS and Android.

From your work with Alice, you already know what it means to:

☐ Write a procedure / function / method
☐ Use a loop to repeat commands
☐ Use an if-statement to only run commands some of the time

The model-view-controller metaphor for app design works like this:

- The *view* is the user interface.
- The data *model* is the storage space inside the computer used to track application *state.*
- The *controller* is the logic used to connect the view to the model and make the app "work".

Example

Let's try making a simple countdown app in Thinkable.

Countdown

Write a program whose view consists of a large label with the number 10.

The model should consist of a variable that begins with the value 10.

When the program opens, the number shown in the label counts down to zero, one second at a time.

When it reaches 0, have the phone say "Blast off!" or something else that is appropriate.

See screenshots for some hints on how to get started.

Here is a video showing what should happen.
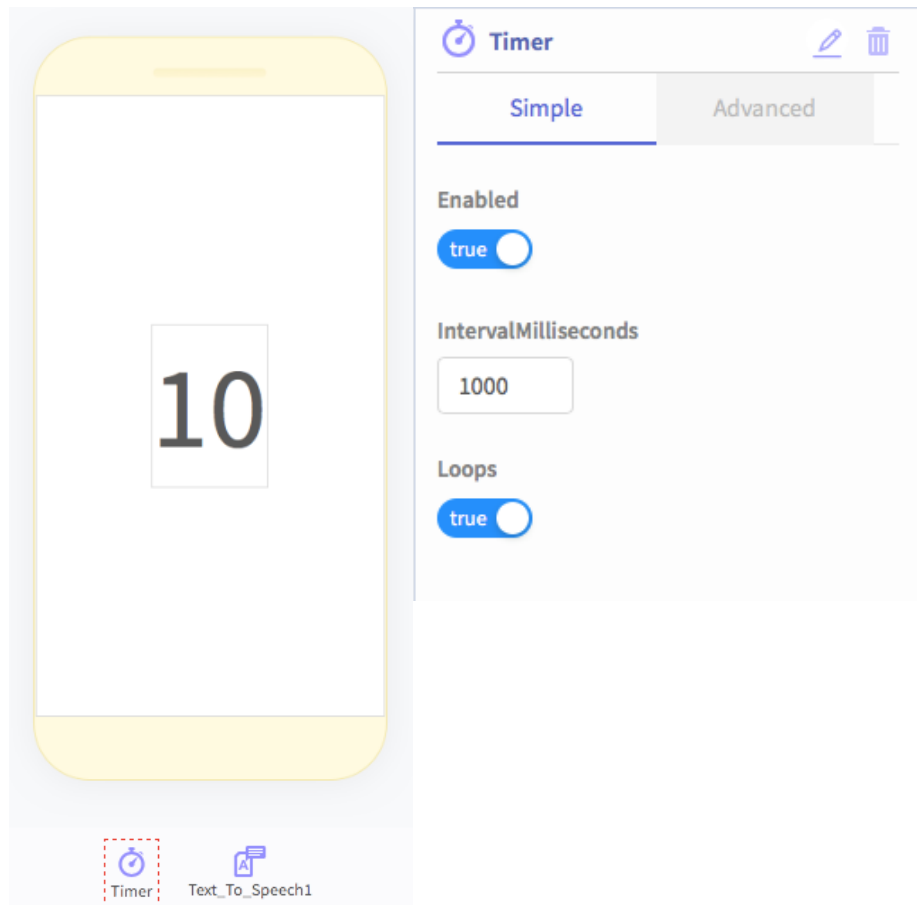
Exercise

<u>Guessing Game</u>

Write a program that has the computer say, for an intro:

"I'm thinking of a number between 1 and 100."

Then a brief pause occurs. Then the intro continues:

"Guess what it is!"

At this point, a text input box and button appears, as shown.

The model should consist of a variable that is set to a random number between 1 and 100.

When the user submits a guess, the computer says one of three things:

· Guess higher next time!
· Guess lower next time!
· You got it!

Once the user guesses the number, the program should tell them how many guesses it took them to win the game.
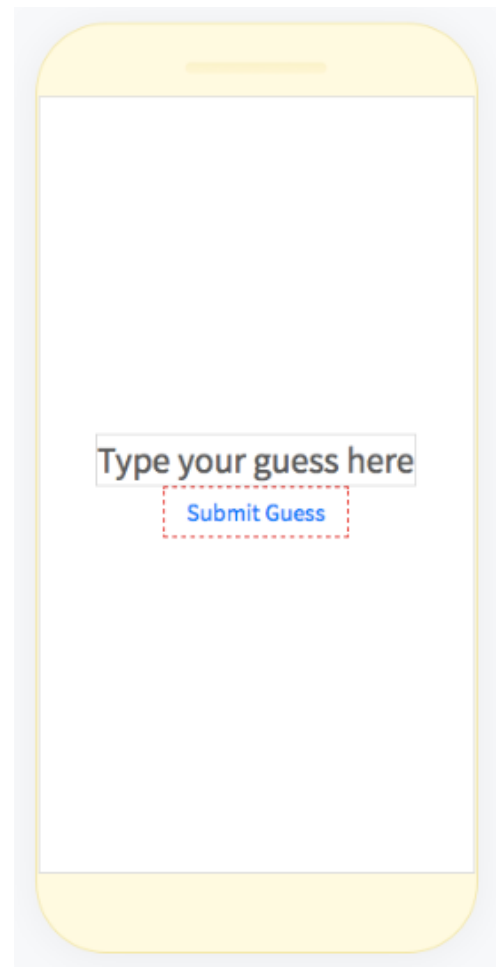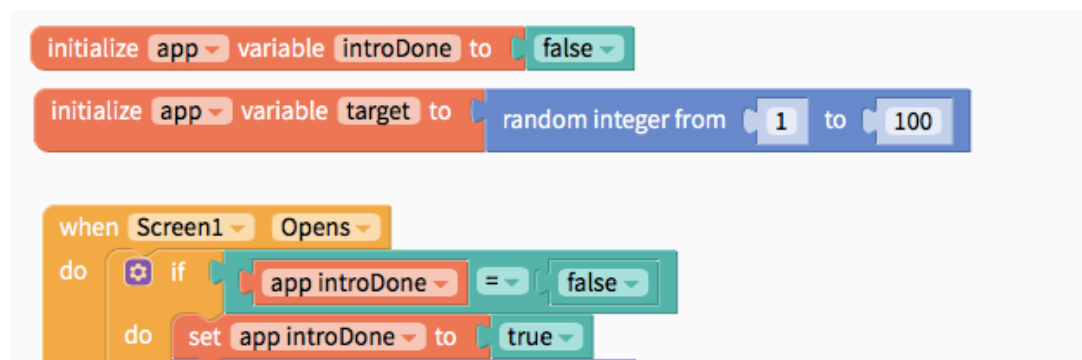
HINT:

To ensure that the intro occurs only once, you'll need to make use of a "flag" variable.

In programming terms, a "flag" keeps track of whether something has happened yet or not.

A "flag" variable typically contains only a *true* or *false* value.

<u>Here is a video demo of this app.</u>

Some logic to help get you started (shows how to use a flag variable, in this case *introDone)*: