

Introduction to Design (Track 3)

6.2 Hands-on: Create Quiz App

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Important!!

Please disinfectize your hands before entering the classroom!

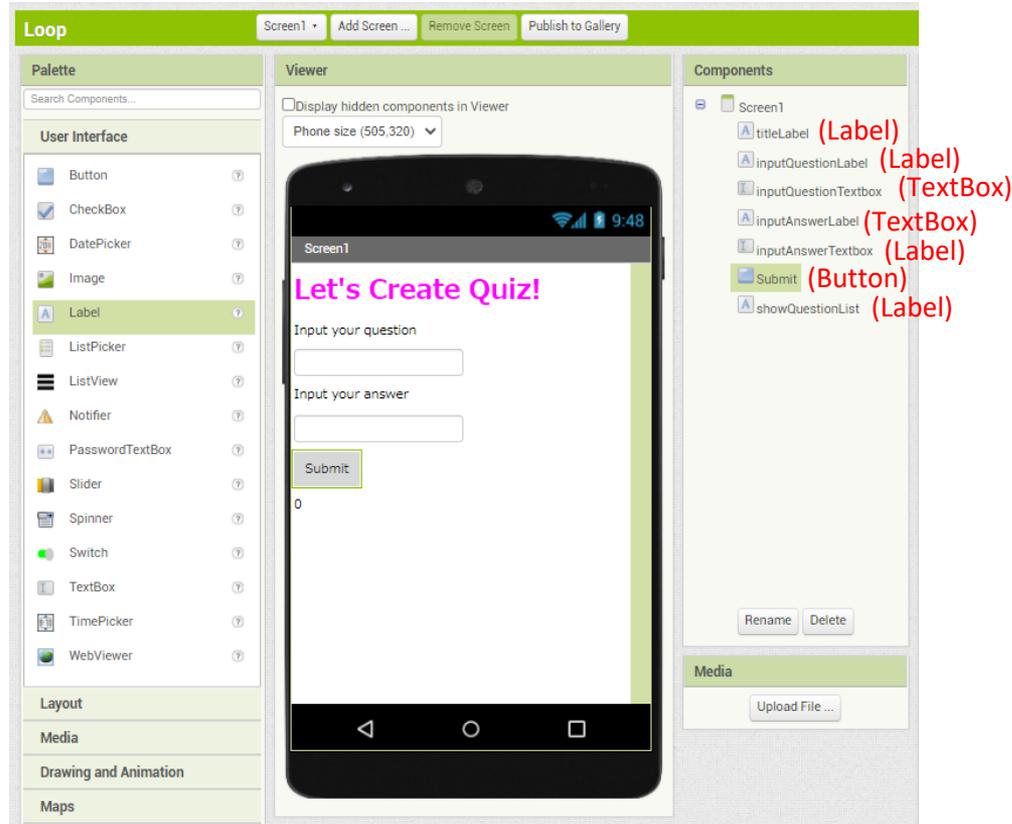
入室前にアルコールを使用して手指消毒を行ってください。

Please disinfectize your chair and table!

- ①ペーパーにアルコールを噴霧してください。
- ②アルコールが噴霧されたペーパーで、使用箇所（テーブル、椅子など）を拭き取ってください。
- ③使用済のペーパーは廊下のごみ箱に捨ててください。



Build UI in designer view



Switch to blocks view

counterApp

Screen1 ▾ Add Screen ... Remove Screen Publish to Gallery

Designer Blocks

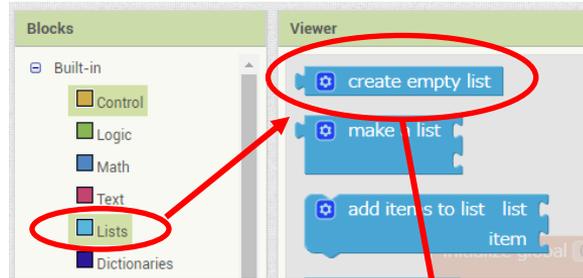
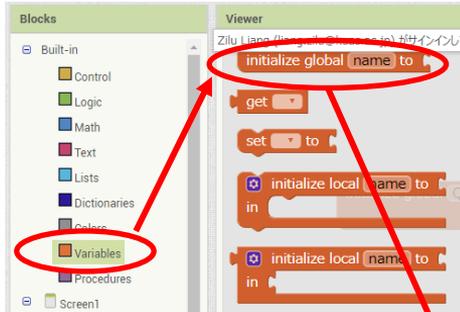
Blocks

- Built-in
 - Control
 - Logic
 - Math
 - Text
 - Lists
 - Dictionaries
 - Colors
 - Variables
 - Procedures
- Screen1
 - click_button
 - label
- Any component

Viewer

Show Warnings

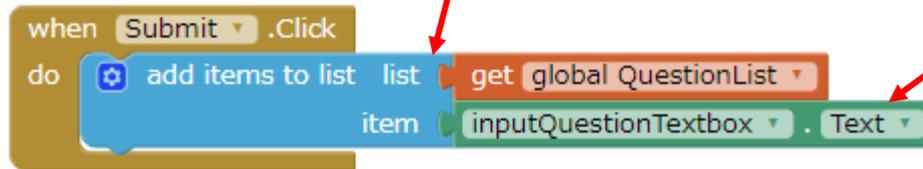
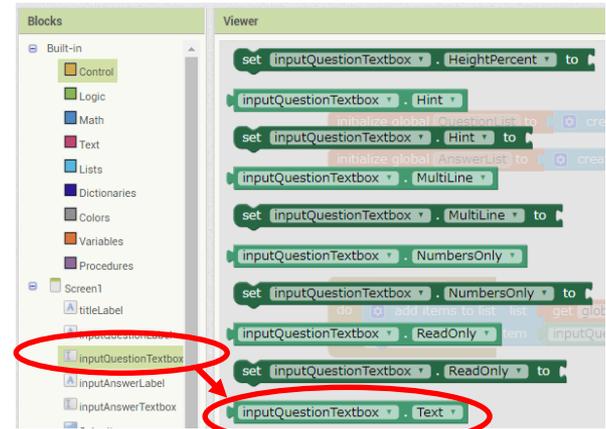
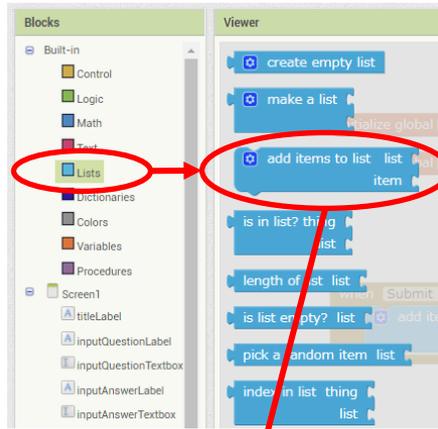
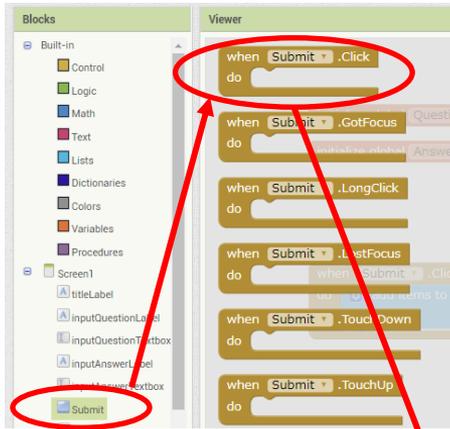
Create Empty Question/Answer List



```
initialize global QuestionList to create empty list  
initialize global AnswerList to create empty list
```

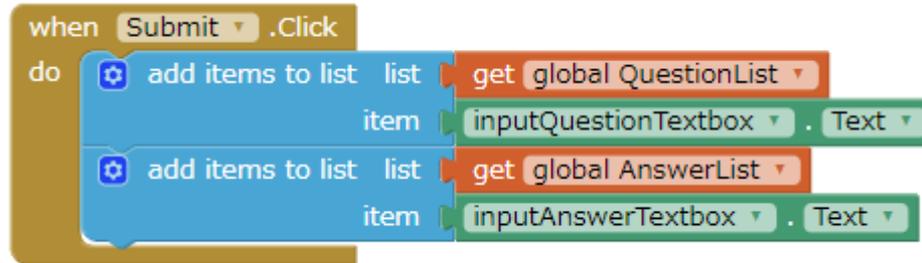
Rename the global variables to 'QuestionList' and 'AnswerList'

Add User's Inputs to Question Lists



Add User's Inputs to Answer Lists

In a similar way, add user's input answers to the AnswerList.



Show Questions in the QuestionList

The image shows a code editor interface with two main panels: 'Blocks' on the left and 'Viewer' on the right. In the 'Blocks' panel, the 'Control' category is highlighted with a red circle. An arrow points from this circle to a 'for each item in list' block in the 'Viewer' panel, which is also circled in red. A second arrow points from this block to a zoomed-in view of the same block on the right side of the image. The zoomed-in view shows the following code structure:

```
when Submit.Click  
do  
  add items to list list get global QuestionList  
  item inputQuestionTextbox.Text  
  add items to list list get global AnswerList  
  item inputAnswerTextbox.Text  
  for each item in list get global QuestionList  
  do
```

Show Questions List

The image displays a Scratch script for showing a list of questions. The script is as follows:

```
when Submit .Click
do
  add items to list list
  list get global QuestionList
  item inputQuestionTextbox . Text
  add items to list list
  list get global AnswerList
  item inputAnswerTextbox . Text
  for each item in list get global QuestionList
  do
    set showQuestionList . Text to
    join showQuestionList . Text
    get item
    " ¥n "
```

The 'join' block is highlighted with a red circle in the 'Blocks' panel and another red circle in the script. A red arrow points from the 'join' block in the script to the 'join' block in the 'Blocks' panel. A blue callout box points to the '¥n' string in the script, stating: "The '¥n' means starting a new line". Another blue callout box points to the 'join' block, stating: "We need to use this join string block; otherwise, only one question will show up."

Clean 'showQuestionList' label before showing questions

```
when Submit .Click
do
  add items to list list get global QuestionList
  item inputQuestionTextbox . Text
  add items to list list get global AnswerList
  item inputAnswerTextbox . Text
  set showQuestionList . Text to ""
  for each item in list get global QuestionList
  do
    set showQuestionList . Text to join showQuestionList . Text
    get item
    " ¥n "
```

Test App on Emulator

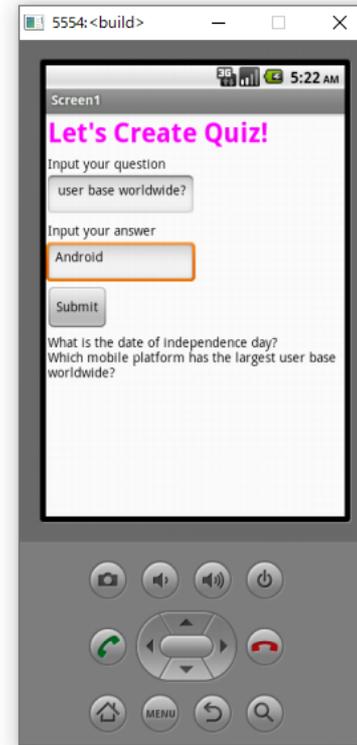
Click on the aiStarter on your computer, you should see the following window open.

```
aiStarter
127.0.0.1 -- [21/Apr/2021 17:00:23] "GET /echeck/ HTTP/1.1" 200 40
127.0.0.1 -- [21/Apr/2021 17:00:23] "GET /echeck/ HTTP/1.1" 200 40
127.0.0.1 -- [21/Apr/2021 17:00:24] "GET /start/ HTTP/1.1" 200 0
127.0.0.1 -- [21/Apr/2021 17:00:24] "GET /echeck/ HTTP/1.1" 200 40
127.0.0.1 -- [21/Apr/2021 17:00:24] "GET /echeck/ HTTP/1.1" 200 40
127.0.0.1 -- [21/Apr/2021 17:00:24] "GET /echeck/ HTTP/1.1" 200 40
127.0.0.1 -- [21/Apr/2021 17:00:24] "GET /echeck/ HTTP/1.1" 200 40
127.0.0.1 -- [21/Apr/2021 17:00:24] "GET /echeck/ HTTP/1.1" 200 40
127.0.0.1 -- [21/Apr/2021 17:00:24] "GET /echeck/ HTTP/1.1" 200 40
127.0.0.1 -- [21/Apr/2021 17:00:25] "GET /echeck/ HTTP/1.1" 200 40
127.0.0.1 -- [21/Apr/2021 17:00:26] "GET /echeck/ HTTP/1.1" 200 40
127.0.0.1 -- [21/Apr/2021 17:00:27] "GET /echeck/ HTTP/1.1" 200 40
127.0.0.1 -- [21/Apr/2021 17:00:28] "GET /echeck/ HTTP/1.1" 200 40
127.0.0.1 -- [21/Apr/2021 17:00:29] "GET /echeck/ HTTP/1.1" 200 40
127.0.0.1 -- [21/Apr/2021 17:00:30] "GET /echeck/ HTTP/1.1" 200 40
127.0.0.1 -- [21/Apr/2021 17:00:31] "GET /echeck/ HTTP/1.1" 200 40
127.0.0.1 -- [21/Apr/2021 17:00:32] "GET /echeck/ HTTP/1.1" 200 40
127.0.0.1 -- [21/Apr/2021 17:00:33] "GET /echeck/ HTTP/1.1" 200 40
127.0.0.1 -- [21/Apr/2021 17:00:34] "GET /echeck/ HTTP/1.1" 200 40
127.0.0.1 -- [21/Apr/2021 17:00:35] "GET /echeck/ HTTP/1.1" 200 40
127.0.0.1 -- [21/Apr/2021 17:00:36] "GET /echeck/ HTTP/1.1" 200 40
127.0.0.1 -- [21/Apr/2021 17:00:37] "GET /echeck/ HTTP/1.1" 200 40
127.0.0.1 -- [21/Apr/2021 17:00:38] "GET /echeck/ HTTP/1.1" 200 40
127.0.0.1 -- [21/Apr/2021 17:00:39] "GET /echeck/ HTTP/1.1" 200 40
127.0.0.1 -- [21/Apr/2021 17:00:40] "GET /echeck/ HTTP/1.1" 200 40
127.0.0.1 -- [21/Apr/2021 17:00:41] "GET /echeck/ HTTP/1.1" 200 40
127.0.0.1 -- [21/Apr/2021 17:00:42] "GET /echeck/ HTTP/1.1" 200 40
127.0.0.1 -- [21/Apr/2021 17:00:43] "GET /echeck/ HTTP/1.1" 200 67
Device = emulator-5554
127.0.0.1 -- [21/Apr/2021 17:01:09] "GET /restart/emulator-5554 HTTP/1.1" 200 0
```

Test App on Emulator

```
initialize global QuestionList to create empty list
initialize global AnswerList to create empty list

when Submit .Click
do
  add items to list list get global QuestionList
  item inputQuestionTextbox . Text
  add items to list list get global AnswerList
  item inputAnswerTextbox . Text
  set showQuestionList . Text to ""
  for each item in list get global QuestionList
  do set showQuestionList . Text to join showQuestionList . Text
    get item
    "\n"
```



Code Anatomy: Android Quiz App

The image displays a sequence of code blocks from a Scratch-like environment, annotated with arrows and text to explain their function in an Android Quiz App. The code is organized as follows:

- Global Initialization:**
 - Block: `initialize global QuestionList to create empty list` → Initialize two global variables of list type
 - Block: `initialize global AnswerList to create empty list`
- Event Trigger:**
 - Block: `when Submit .Click`
- Do Loop:**
 - Block: `do add items to list list get global QuestionList` → Add user's input question to the QuestionList
 - Block: `item inputQuestionTextbox . Text`
 - Block: `do add items to list list get global AnswerList` → Add user's input answer to the AnswerList
 - Block: `item inputAnswerTextbox . Text`
 - Block: `set showQuestionList . Text to " "` → Clean the label before showing the question list
 - Block: `for each item in list get global QuestionList`
 - Block: `do set showQuestionList . Text to join showQuestionList . Text`
 - Block: `get item`
 - Block: `" %n "` → Show all the questions in the QuestionList in the 'showQuestionList' label

Assignment

6.1 Complete the hands-on tasks in the tutorial

- ✓ If you finish all the steps in class, show your Create Quiz App to one of the instructors before you leave
- ✓ If you cannot finish all the steps, you can work on them after class and show your app to one of the instructors in the class next week

6.2 Make sure you have completed the assignment in previous classes and get them checked by the instructors.

Assignment (Optional)

6.3 If you have time, why not adding more features to the Quiz Game?

6.3.1 restart from the first question when you take a wrong answer.

6.3.2 show "Congratulations!" N times after all correct, where N means the number of questions.

You can change questions and answers as you like.

KUAS

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