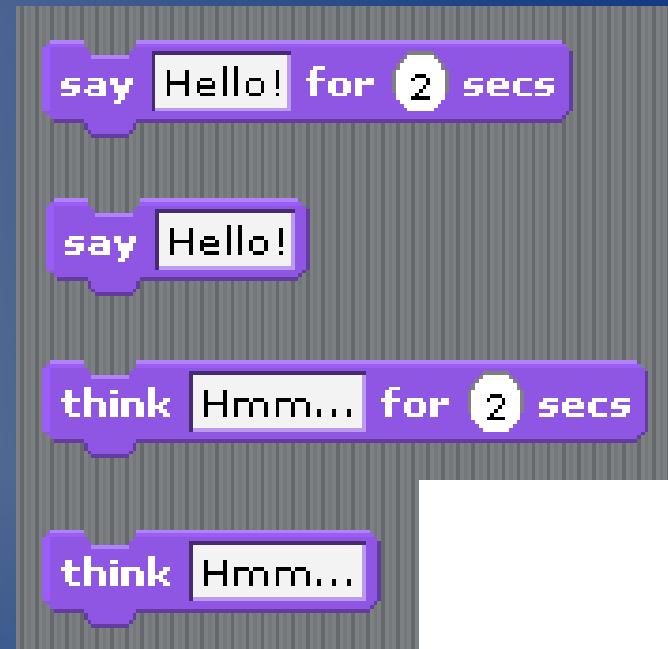


# Introduction to Scratch Programming

# Output in Scratch

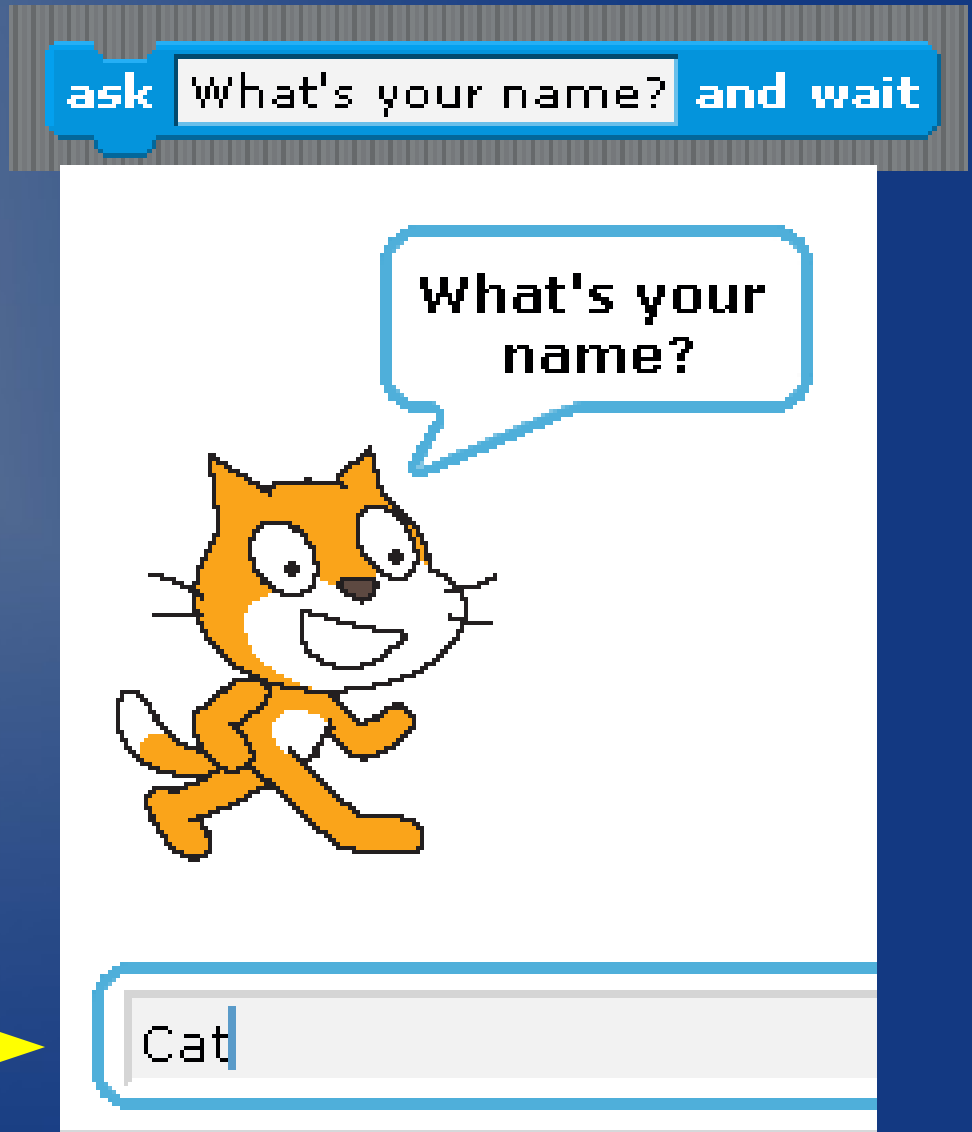
- there are only a few options for communicating with the user using text or numbers



# Input in Scratch

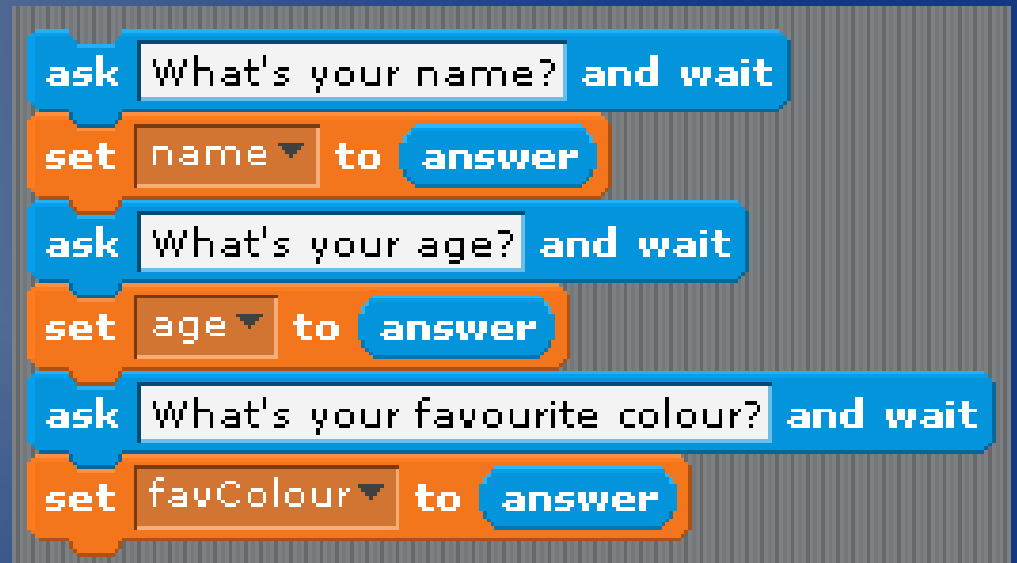
- many types of input (mouse, keyboard, microphone)
- we focus on text input from keyboard
- ask the user a question and wait for their answer

user types response here →



# Variables in Scratch

- by default, all user responses are saved in the 'answer' variable
- treat this as temporary storage
- create your own variables to store answers to questions



# Creating a Variable in Scratch

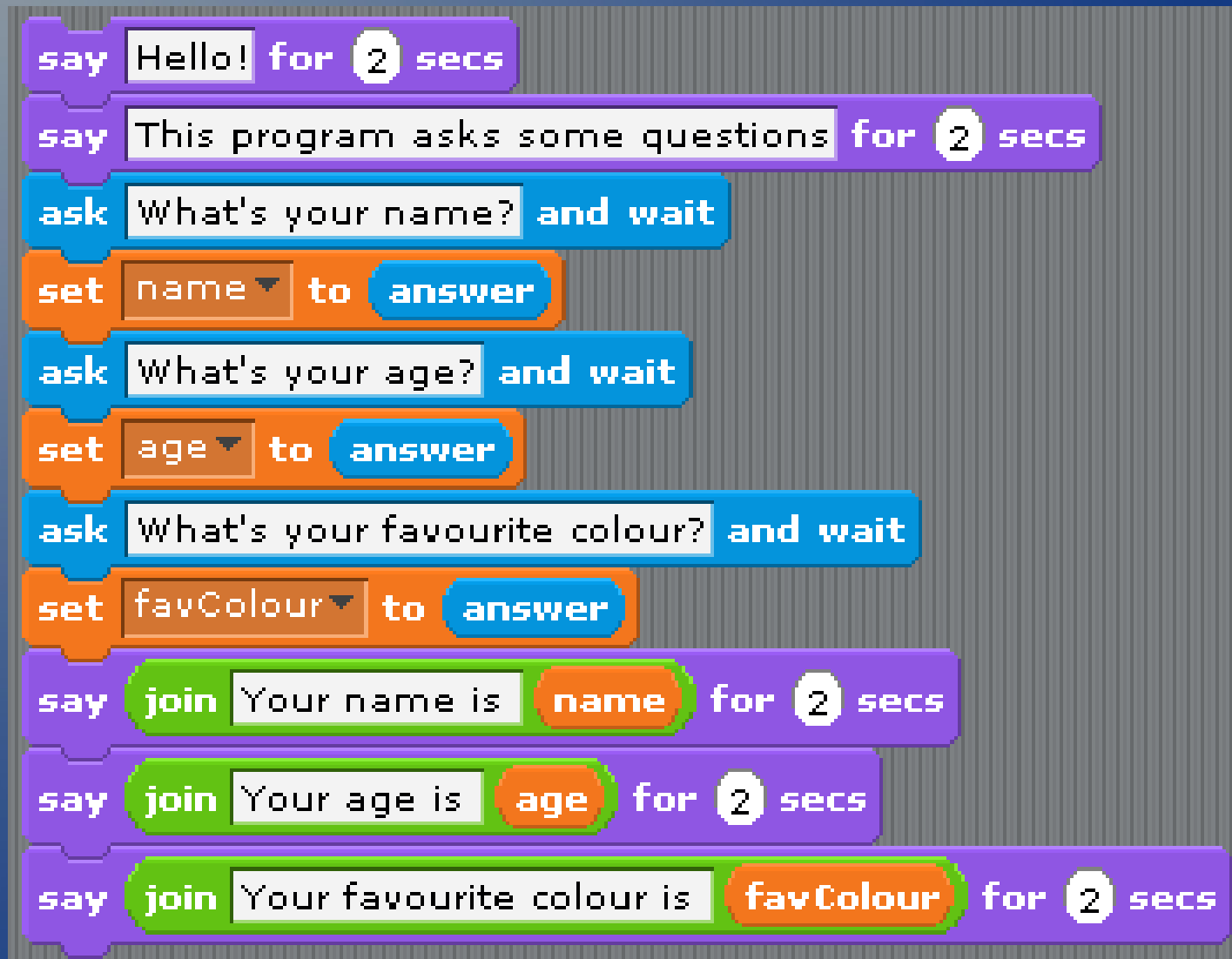
- make a variable for each value you input or calculate
- try to use good names for variables
- short but meaningful



# Creating Variable Names

- a variable name should make it fairly clear what the variable is for
- start with a lowercase letter
- for multiple words, use uppercase to start other words
- avoid including words like 'a', 'the', 'of, etc...
- if variables names are getting too long, contract the word (removing some letters, usually vowels, can work)

# Input & Output in Scratch



```
say Hello! for 2 secs
say This program asks some questions for 2 secs
ask What's your name? and wait
set name to answer
ask What's your age? and wait
set age to answer
ask What's your favourite colour? and wait
set favColour to answer
say join Your name is name for 2 secs
say join Your age is age for 2 secs
say join Your favourite colour is favColour for 2 secs
```

The image shows a Scratch script with the following blocks:

- say** Hello! for 2 secs
- say** This program asks some questions for 2 secs
- ask** What's your name? and wait
- set** name to answer
- ask** What's your age? and wait
- set** age to answer
- ask** What's your favourite colour? and wait
- set** favColour to answer
- say** join Your name is name for 2 secs
- say** join Your age is age for 2 secs
- say** join Your favourite colour is favColour for 2 secs

# The 'join' Command

- a bit more advanced, but so useful in making 'nice' output
- lets you combine text and numbers with variables
- don't forget to include spaces where necessary!
- it is also possible to join multiple 'join' commands together
- beware overly long lines!

