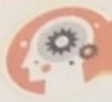
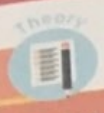


Changing an algorithm into a flowchart and code



Activity 12



Translating an algorithm into code

Write an algorithm for getting ready for school in the morning. The first two steps are done for you.

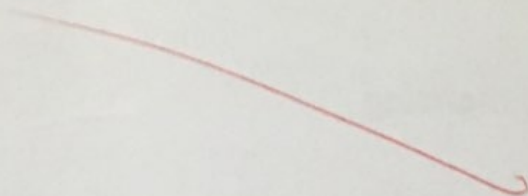
- | | |
|----|----------------------------|
| 1 | Wake up in the morning |
| 2 | Get out of bed |
| 3 | go to the bathroom. |
| 4 | brush my teeth and shower. |
| 5 | brush my hair. |
| 6 | Get dressed. |
| 7 | Eat break fast. |
| 8 | go to school |
| 9 | study hard. |
| 10 | back to the home. |



How is this error message different to the error message from typing the example below?

```
print(Hello world)
```

They don't do " ".



my name



Finding the error



Activity 11



What is the error in the code below?

```
print("My name is Koby.
```

There is no) and no "".

Write the code above in a new Python file. You can call the file 'my name is'. What error message do you get?

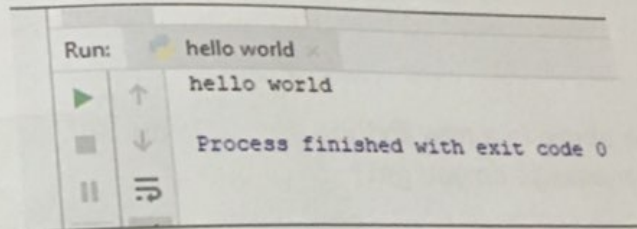
- ▶ Open your python program on your computer.



- ▶ Open a new file and call it 'hello world.py'.
- ▶ Type the following code into your python file:

```
print("hello world")
```

- ▶ Run your code. The output should look something like this:



What did the print() function do in this program?

Print hello world.

Python



Activity 8



Vocabulary word search

Look at the words in the table below. Find them in the word search.

N	R	Q	F	M	O	R	P	I	T	K	C	K	G	C
O	O	M	B	O	H	R	A	R	Q	D	O	D	N	E
W	M	H	B	V	O	T	A	C	O	T	M	D	I	D
Z	G	U	T	G	C	H	I	J	K	O	M	D	G	K
Z	W	G	R	Y	C	G	M	R	W	J	E	E	G	Y
J	L	A	Y	W	P	K	L	T	O	Z	N	D	U	I
M	M	C	O	U	X	C	C	A	C	G	T	O	B	D
E	D	L	M	U	C	S	Z	Y	N	B	L	C	E	E
B	F	M	R	A	H	C	Y	P	M	G	E	A	D	U
G	N	I	M	M	A	R	G	O	R	P	U	M	N	G
C	O	M	P	U	T	E	R	A	M	S	O	A	A	G
T	U	H	O	N	P	Y	W	A	X	S	L	V	G	B
Q	T	V	Q	T	H	W	V	D	J	F	F	D	N	E
S	G	W	V	K	R	E	O	R	Q	H	I	C	J	L
D	Z	X	F	W	B	I	H	Y	F	X	N	K	T	X

ALGORITHM	PYTHON	DEBUGGING	COMMENT	PROGRAMMING
CODE	FLOWCHART	LANGUAGE	COMPUTER	PROGRAM



Activity 9



From Ardublockly to Python

In Ardublockly, you created programs that can be written using text. In the examples on the left. Match the Ardublockly code to the Python code.

Ardublockly code

set age * to

if name is not empty then say Hello

set name to

say Hello

A

B

C

D



Activity 9



From Ardublockly to Python

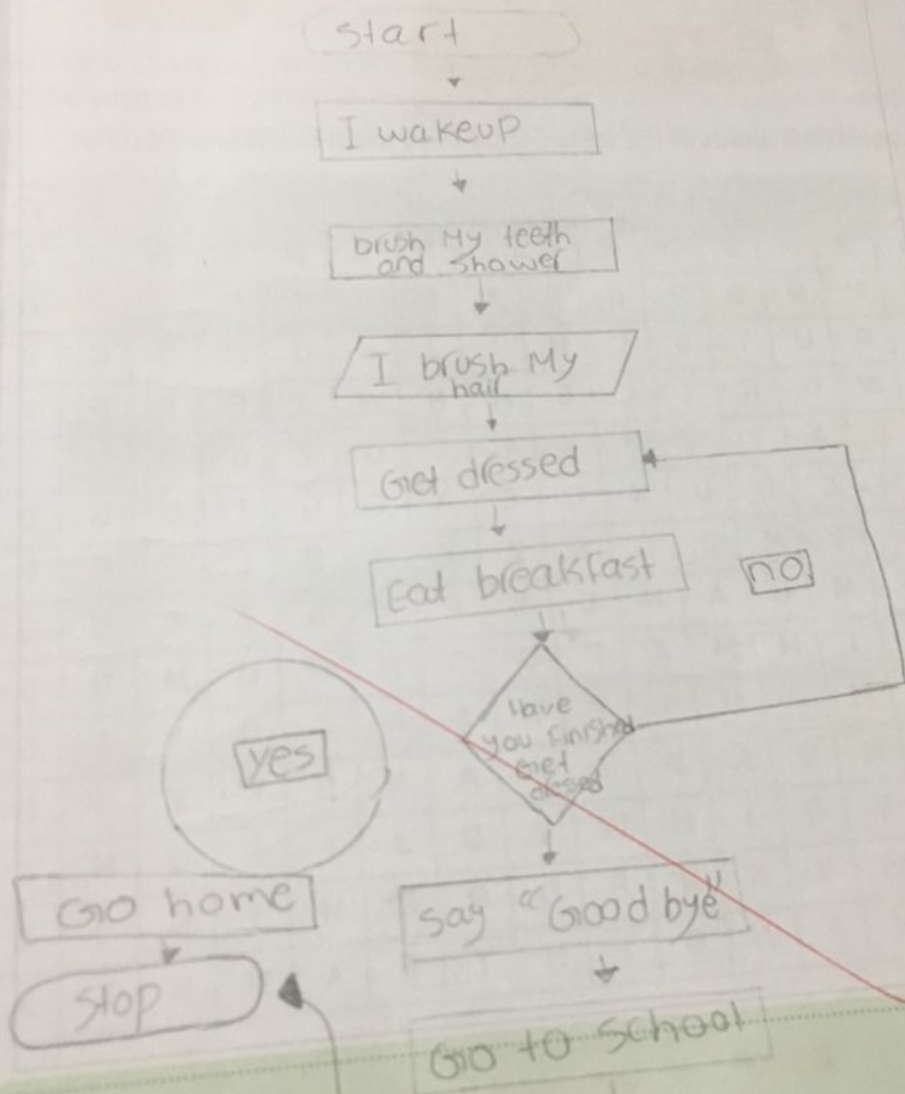
In Ardublockly, you created programs using blocks. However, each block can be written using text. In the activity below, look at the blocks of code on the left. Match the Ardublockly code with the correct Python code.

C
E
D
K
Y
I
D
E
U
G
G
B

	Ardublockly code	Python code	
A		<code>ageIn10Years = age + 10</code>	D
B		<code>name = "Hamdan"</code>	C
C		<code>age = 13</code>	A
D		<code>if name == "Hamdan": print("Hello")</code>	B



Part 2: Use the example of a flowchart from the book. Draw a flowchart for the algorithm (your daily routine).

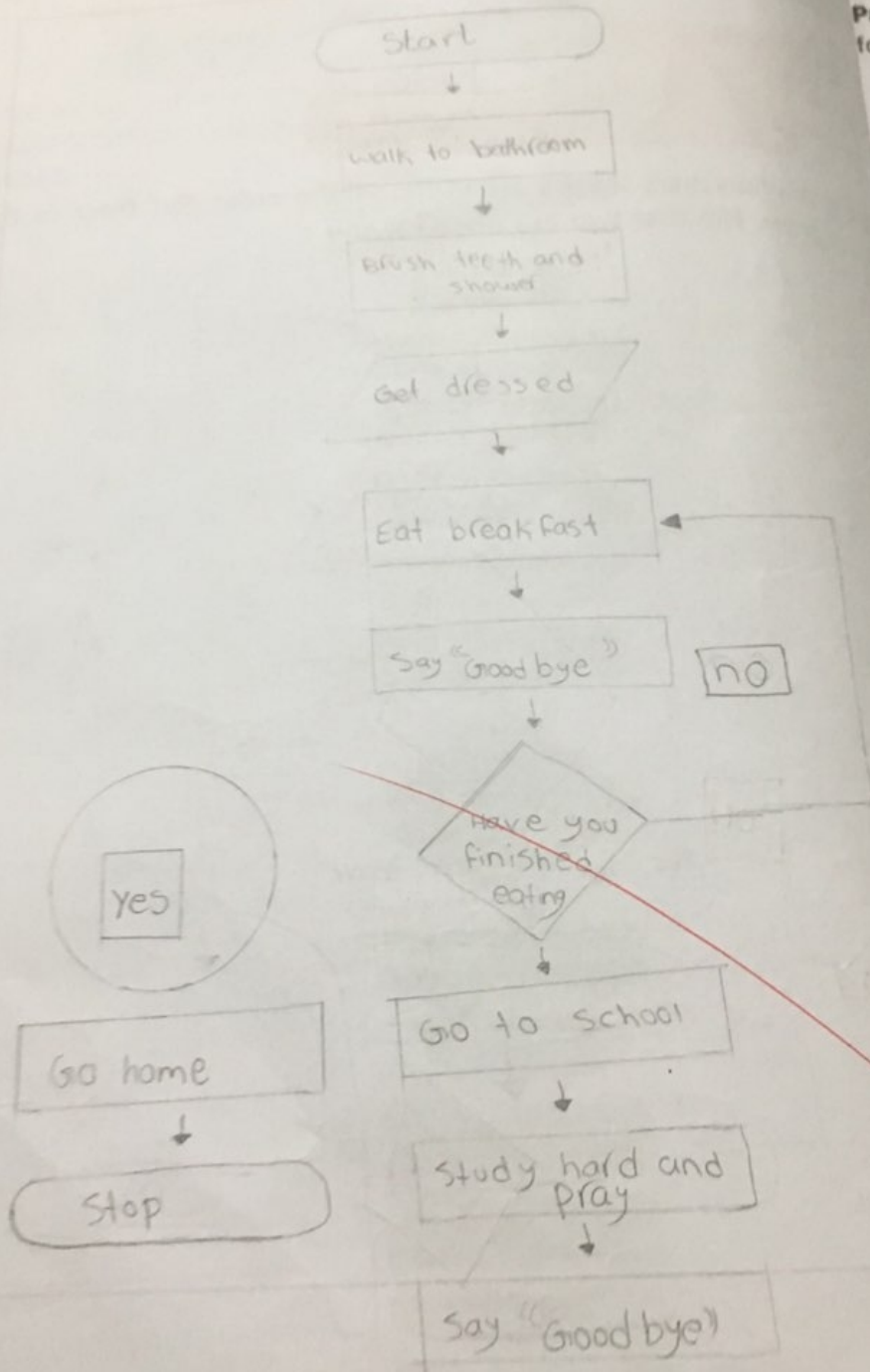


Did you know?

Flowcharts are used in Mathematics as well as Design and Technology.

Study hard and pray

Draw the correct flowchart in the space below.



Part 2: Use the example of for the algorithm (your d

Activity 6
Writing your own algorithm

Write an algorithm to explain your daily routine. Remember that each answer is different. You might have more steps or less steps than another student.

1	I wakeup.
2	brush my teeth and Shower.
3	I brush My hair.
4	Get dressed.
5	Eat breakfast.
6	Say "Good bye".
7	Go to School.
8	Study hard and pray.
9	Go home.
10	
11	
12	

Flowcharts

Activity
Draw

Part 1: The flo
correct order.



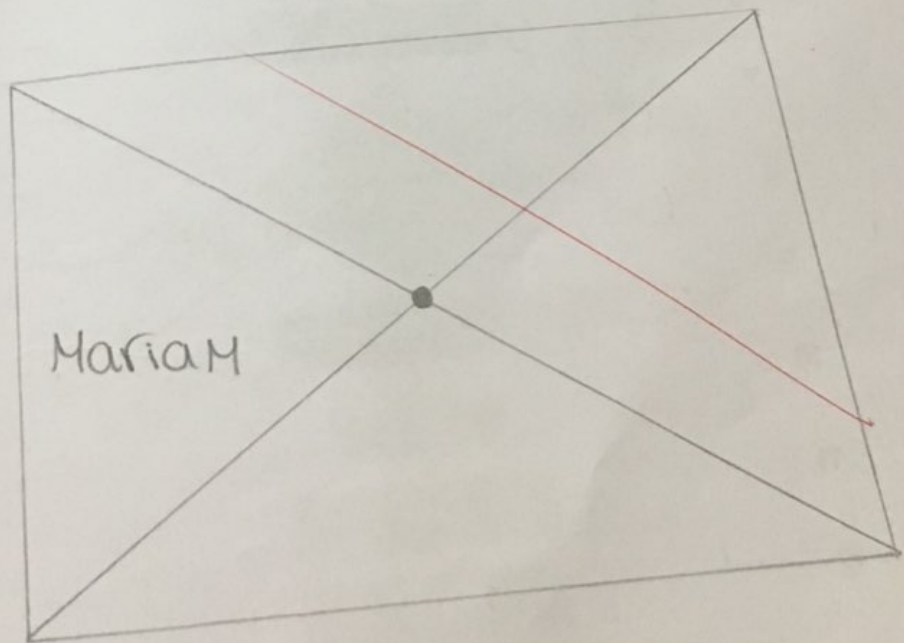
Activity 5



Following algorithm instructions

Follow the instructions below to draw a picture:

1. Draw a dot in the middle of your page.
2. Draw a straight line from the top left-hand corner of the page through the dot and finish at the bottom right-hand corner of the page.
3. Draw a straight line from the bottom left-hand corner of the page through the dot and finish at the top right-hand corner of the page.
4. Write your name in the triangle on the left-hand side of the page.





Activity 2



Choosing good variable names

Which variable names are good, and which are bad? Write your answer next to each one.

Variable name	Good/Bad
Example: country	Example: Good
yourAddress	Good
Last name	Bad
Second*name	Bad
Date of birth	Bad
dateOfBirth	Good
print	Bad
height	Good
myheight	Good
3rdPersonsName	Bad



Activity 3

Creating a variable in Python

1. Open a new Python file.

2. Type the following into the coding section:

```
numOfFalcons = 4  
print(numOfFalcons)
```

3. Run the program. You should see the number 4 in the output section.

What does this program do? Explain each line.

<code>numOfFalcons = 4</code>	it assigns the value 4 to the variable numofFalcons.
<code>print(numOfFalcons)</code>	it prints the value for the numofFalcons variable to the screen as an output.

We have used the name of the variable inside the brackets for the print() function instead of a value. This is how we output the value from the variable.



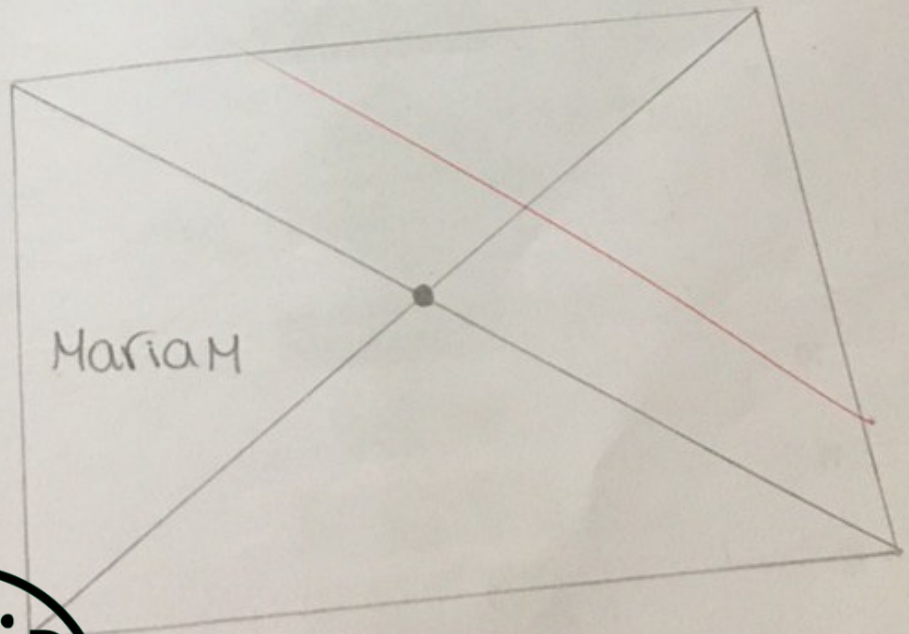
Activity 5



Following algorithm instructions

Follow the instructions below to draw a picture:

1. Draw a dot in the middle of your page.
2. Draw a straight line from the top left-hand corner of the page through the dot and finish at the bottom right-hand corner of the page.
3. Draw a straight line from the bottom left-hand corner of the page through the dot and finish at the top right-hand corner of the page.
4. Write your name in the triangle on the left-hand side of the page.



Lab
Activity 4
Assigning values to variables

Look at the questions below. Write the code in Python. Then, run the programs. Write the output in the output box.

1.

```
name = "Vasha"  
print(name)
```

Output: vasha

2.

```
age = 12  
print(age)
```

Output: 12

3.

```
height = 170  
print(height)
```

Output: 170

4.

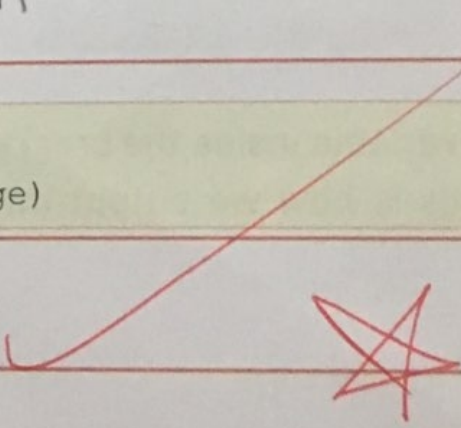
```
firstName = "Zach"  
print(firstName)
```

Output: zach

5.

```
myAge = 2  
print(myAge)
```

Output: 2



Using constant values



Activity 7



Variables and constants

Thursday
10-10-2019

Read the descriptions below. Which ones are variables and which ones are constants?

	Description	Variable or constant?
1	The level number in a computer game	variable
2	The highscore in a game	variable
3	The name of the game	constant
4	The number of centimetres in a metre	constant
5	The number of Emirates in the UAE	constant
6	The population of the UAE	variable

Activity 8
Creating constants

Type the following questions as constants in Python. Put a print statement after it to output the value. Make sure you put comments in your code to explain what it means. You can put it all in the same file.

Example: The number of Emirates in the UAE

```
#number of emirates in the UAE.  
EMIRATES = 7
```

1. The number of centimetres in a metre
= centimetres = 100
2. The number of legs on a camel
number of legs = 4
3. The name of the largest Emirate in the UAE
name of largest = "Dubai"
4. The continent that the UAE is in
continent = "Asia"
5. The number of continents on earth
number of continents = 7

Using inputs



Activity 9

Lab



What happens?

Run the code in the program below. What happens? Circle the correct answer.



```
#input your age  
age = input("Enter your age: ")  
print(age)
```

The program will not ask for the user's age.

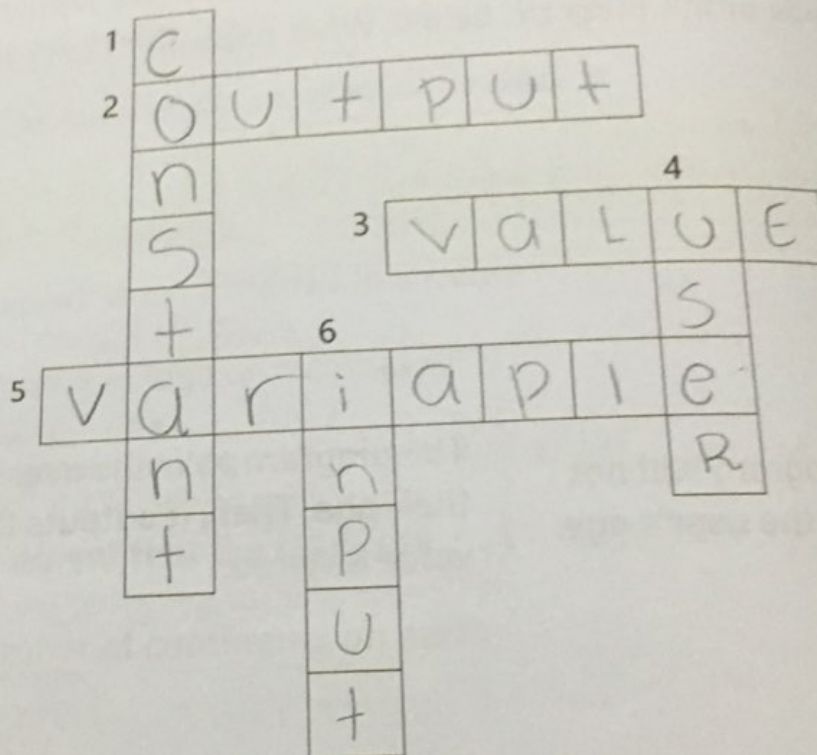
The program asks the user for their age. Then, it outputs the value entered.

The program prints nothing.

The program asks the user for their age. Then, it outputs nothing.

 **Activity 10** 
Crossword puzzle

Finish the crossword puzzle below.



Across

- 2. Data that a program gives to the user
- 3. Information that is stored in a variable
- 5. A space that is used in a program to store a value that can be changed

Down

- 1. A space that is used in a program to store a value that cannot be changed
- 4. A person who uses a computer

Lab
Activity 11
Inputs and outputs

Look at the questions below. Write the code. If the code is not complete, then finish it. Make it do what the comment says. The first one is done for you.

1. **Write** the code below. Output the answer.

```
#input and output your height in cm  
yourHeight = input("What is your height in cm? : ")  
print(yourHeight)
```

Output: what is your height in cm?

2. **Complete** the code below. Output your name and write the answer you get.

```
#input and output your name finish the code  
yourName = input("What is your name? : ")
```

Output: Print (your Name)



3. **Complete** the code below for writing your favourite colour. Write the answer you get.

```
#input and output your favourite colour  
favColour =
```

Output:

4. **Complete** the code below for writing your age. Write the answer you get.

```
#input and output your age
```

Output:

5. **Complete** the code for writing your favourite food. Write the answer you get.

```
#input and output your favourite food
```

Output:

6. **Complete** the code you get.

```
#input and output
```

Output:

7. **Complete** the code you get.

```
#input and output
```

Output:

Did you
User
In pr



Activity 5



Following algorithm instructions

Follow the instructions below to draw a picture:

1. Draw a dot in the middle of your page.
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3. Draw a straight line from the bottom left-hand corner of the page through the dot and finish at the top right-hand corner of the page.
4. Write your name in the triangle on the left-hand side of the page.

