

Name: \_\_\_\_\_

Class: \_\_\_\_\_

# Understanding Code

**Examples**

Complete the code for the two (2) exercises below.

1.

Assemble your blocks here: 2 / 4

when run  
move forward  
turn left  
turn right

Run

This pig is ruffling my feathers. Help me to find him!

2.

Assemble your blocks here: 2 / 6

when run  
move forward  
turn left  
turn right

Run

Guide me to the green evilness! (Watch out for TNT)

Examples

Blocks Assemble your blocks here: 3 / 3

- move forward
- turn left
- turn right
- repeat 5 times do

Run

There's a way I can get to the silly pig using only 2 blocks. Can you figure it out?

Blocks Assemble your blocks here: 5 / 5

- move forward
- turn left
- turn right
- repeat 5 times do

Run

When a block is grey, that means you can't delete it. Solve this puzzle using the "repeat" block that repeats 3 times. Try putting these 3 blocks inside the grey "repeat" block: move, move, turn.

Blocks Assemble your blocks here: 6 / 6

- move forward
- turn left
- turn right
- repeat until do

Reset

Dear person. Me zombie. Me hungry. Must... get... to sunflower... Can you get me there with only 5 blocks?

Complete the code for the two (2) exercises below.

3.

Blocks Assemble your blocks here: 1 / 4

- move forward
- turn left
- turn right
- repeat 5 times do

when run

Reset

Try to get me to the green intruder using only three blocks.

4.


Blocks Assemble your blocks here: 1 / 6

- move forward
- turn left
- turn right
- repeat until do

when run

Run

Ok, this is similar, but slightly different. Can you do it in only 5 blocks?



▶ Run


Use the new "if" block to let me decide when to turn. Hint: you only need one more block, but learn how we set it up so you can do it on your own next time.

Blocks	Assemble your blocks here: 5 / 5
<div style="background-color: #4a86e8; color: white; padding: 2px 5px; border-radius: 3px;">move forward</div> <div style="background-color: #4a86e8; color: white; padding: 2px 5px; border-radius: 3px; margin-top: 5px;">turn left ↶</div> <div style="background-color: #4a86e8; color: white; padding: 2px 5px; border-radius: 3px; margin-top: 5px;">turn right ↷</div> <div style="background-color: #e91e63; color: white; padding: 2px 5px; border-radius: 3px; margin-top: 10px;">repeat until </div> <div style="background-color: #4a86e8; color: white; padding: 2px 5px; border-radius: 3px; margin-top: 5px;">if path to the left ↶</div>	<div style="background-color: #f1c40f; padding: 2px 5px; border-radius: 3px; margin-bottom: 5px;">when run</div> <div style="background-color: #4a86e8; padding: 2px 5px; border-radius: 3px; margin-bottom: 5px;">repeat until </div> <div style="background-color: #4a86e8; padding: 2px 5px; border-radius: 3px; margin-bottom: 5px;">do</div> <div style="background-color: #4a86e8; padding: 2px 5px; border-radius: 3px; margin-bottom: 5px;">move forward</div> <div style="background-color: #4a86e8; padding: 2px 5px; border-radius: 3px; margin-bottom: 5px;">if path to the left ↶</div> <div style="background-color: #4a86e8; padding: 2px 5px; border-radius: 3px; margin-bottom: 5px;">do</div> <div style="background-color: #4a86e8; padding: 2px 5px; border-radius: 3px; margin-bottom: 5px;">turn left ↶</div>

Example

Complete the code below.

5.



▶ Run

Ok, this is just like the last puzzle, but you need to remember how you used the "if" block and the "repeat" block together.

Blocks	Assemble your blocks here: 1 / 5
<div style="background-color: #4a86e8; color: white; padding: 2px 5px; border-radius: 3px; margin-bottom: 5px;">move forward</div> <div style="background-color: #4a86e8; color: white; padding: 2px 5px; border-radius: 3px; margin-bottom: 5px;">turn left ↶</div> <div style="background-color: #4a86e8; color: white; padding: 2px 5px; border-radius: 3px; margin-bottom: 5px;">turn right ↷</div> <div style="background-color: #e91e63; color: white; padding: 2px 5px; border-radius: 3px; margin-bottom: 5px;">repeat until </div> <div style="background-color: #4a86e8; color: white; padding: 2px 5px; border-radius: 3px; margin-bottom: 5px;">do</div> <div style="background-color: #4a86e8; color: white; padding: 2px 5px; border-radius: 3px; margin-bottom: 5px;">if path to the right ↷</div> <div style="background-color: #4a86e8; color: white; padding: 2px 5px; border-radius: 3px; margin-bottom: 5px;">do</div>	<div style="background-color: #f1c40f; padding: 2px 5px; border-radius: 3px; margin-bottom: 5px;">when run</div>

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## Changing Stages

Explain what each line of code does?

The image shows a Scratch project titled "BUG stays and moves at left side" by teacherLADY1. The stage features a desert backdrop with a cactus and a beetle sprite. The script editor contains the following code:

```
when green flag clicked
  show
  switch backdrop to backdrop1
  go to x: 30 y: -134
  repeat 10
    if touching edge? then
      switch backdrop to desert
      set x to -200
      move 10 steps
    else
      move 40 steps
  glide 1 secs to x: -30 y: -134
  change x by 10
  set x to 0
  change y by 10
  set y to 0
  if on edge, bounce
  set rotation style left-right
  x position
  y position
  direction
```

The script editor is divided into three tabs: Scripts, Costumes, and Sounds. The Scripts tab is active, showing a list of block categories: Motion, Looks, Sound, Pen, Data, Events, Control, Sensing, Operators, and More Blocks. The script editor contains the following code:

```
when green flag clicked
  show
  switch backdrop to backdrop1
  go to x: 30 y: -134
  repeat 10
    if touching edge? then
      switch backdrop to desert
      set x to -200
      move 10 steps
    else
      move 40 steps
  glide 1 secs to x: -30 y: -134
  change x by 10
  set x to 0
  change y by 10
  set y to 0
  if on edge, bounce
  set rotation style left-right
  x position
  y position
  direction
```

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Why does the sprite Vanish off the screen

The image shows a Scratch project titled "BUG goes away" by teacherLADY1. The stage features a desert backdrop with a cactus and a beetle sprite. The beetle's current position is X: 240, Y: -43. The script area contains the following code:

```
when green flag clicked
  show
  switch backdrop to backdrop1
  go to x: 30 y: -134
  repeat 10
    if touching edge? then
      switch backdrop to desert
      hide
    else
      move 40 steps
  end
  go to x: 230 y: -134
  go to mouse-pointer
  glide 1 secs to x: 230 y: -134
  change x by 10
  set x to 0
  change y by 10
  set y to 0
  if on edge, bounce
```

The script starts with a "when green flag clicked" event, followed by "show", "switch backdrop to backdrop1", and "go to x: 30 y: -134". A "repeat 10" loop contains an "if touching edge?" block. If true, it switches the backdrop to "desert" and hides the sprite. If false, it moves the sprite 40 steps. After the loop, it goes to x: 230, y: -134, glides 1 second to that position, and then changes x and y by 10, setting them to 0. The script ends with "if on edge, bounce".