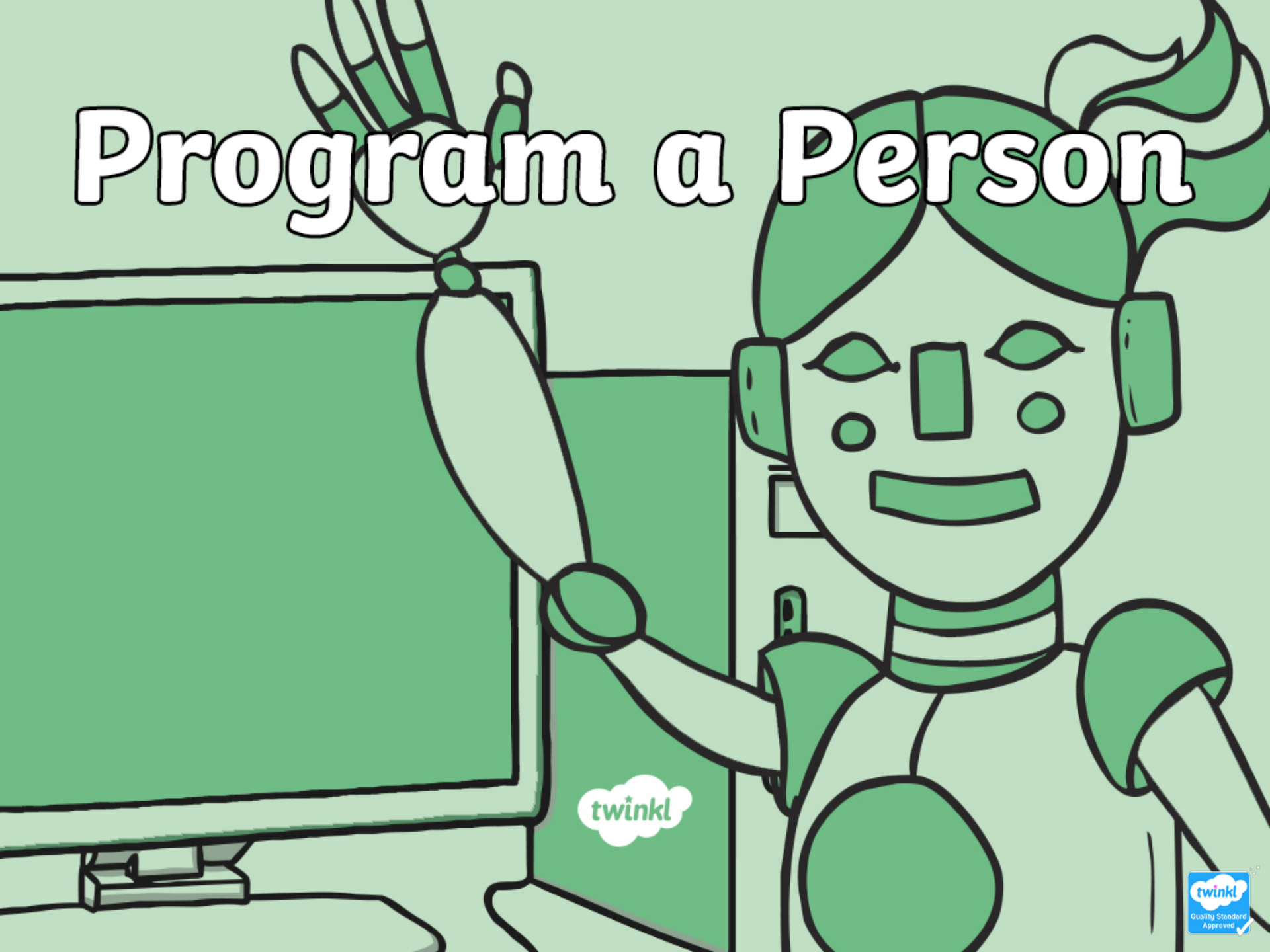
Program a Person



Computing

Programming Toys

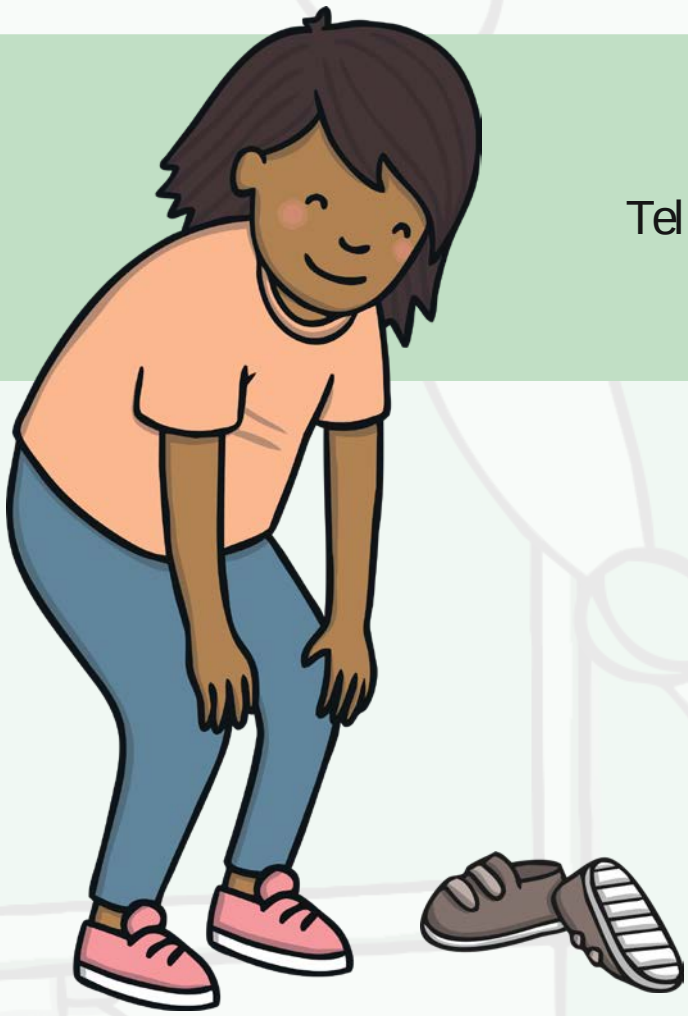
Aim

- I can write instructions to program a person like a computer.

Success Criteria

- I can write step-by-step instructions.
- I can check my work for mistakes (debug).

Help Me Put My Shoes On



How do I put these shoes on?

Tell your partner instructions for how I should put my shoes on.

Help Me Put My Shoes On

Whole Class

Did it work?

Did you make sure that I took off my old shoes first?

What would happen if I forgot to take them off first?

Sometimes, a computer can only follow an instruction if something else has already happened.

Can you think of any other tasks that have to be done in a certain order?

Help Me Put My Shoes On

What tasks did you think of?

Think about:

Computers work this way too – everything needs to be done in the right order.

What if you forgot to take off your normal clothes first?

What if you didn't get out a bowl before you poured the milk?

Program the Teacher!

Can you program me?

What kind of instruction words will you use?

Debugging

Uh oh! I'm trying to write an algorithm to get the smiley face to the pink square, but I can't seem to get there.

To get to the pink square:

1. Move forward 3 squares.
2. Turn a quarter turn clockwise.
3. Move forward 4 squares.

Which step do I need to change?

Debugging

Uh oh! I'm trying to write an algorithm to get the smiley face to the pink square, but I can't seem to get there.

To get to the pink square:

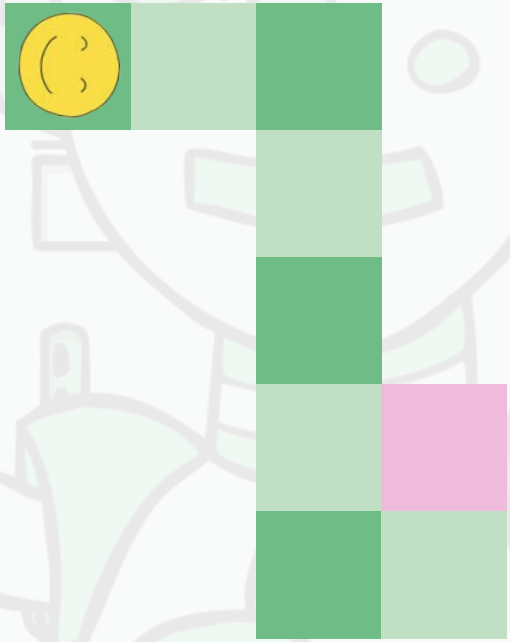
1. Move forward 3 squares.
2. Turn a quarter turn clockwise.
3. Move forward **3** squares.

Which step do I need to change?

Debugging

To get to the pink square:

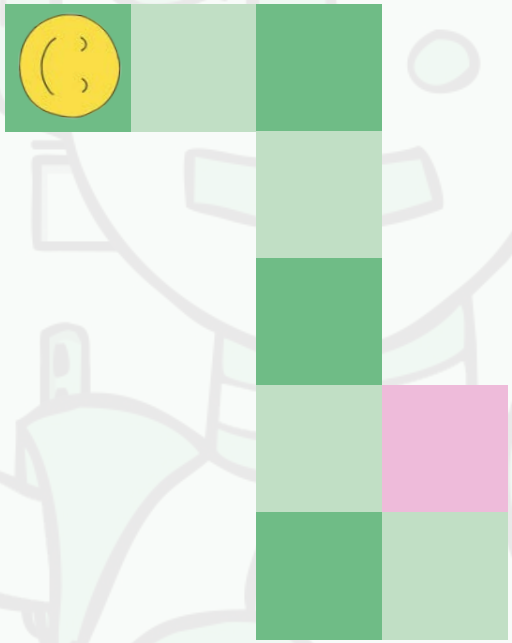
1. Move forwards 2 squares.
2. Turn a quarter turn clockwise.
3. Move forward 4 squares.
4. Turn a quarter turn anticlockwise.
5. Move forward 1 square.



Debugging

To get to the pink square:

1. Move forwards 2 squares.
2. Turn a quarter turn clockwise.
3. Move forward **3** squares.
4. Turn a quarter turn anticlockwise.
5. Move forward 1 square.



Debugging

To get to the pink square:

1. Move forward 4 squares.
2. Turn a quarter turn clockwise.
3. Move forward 1 square.
4. Turn a quarter turn anticlockwise.
5. Move forward 1 square.
6. Turn a quarter turn anticlockwise
7. Move forward 1 square.

Debugging

To get to the pink square:

1. Move forward **3** squares.
2. Turn a quarter turn clockwise.
3. Move forward 1 square.
4. Turn a quarter turn anticlockwise.
5. Move forward **2** squares.
6. Turn a quarter turn anticlockwise
7. Move forward 1 square.

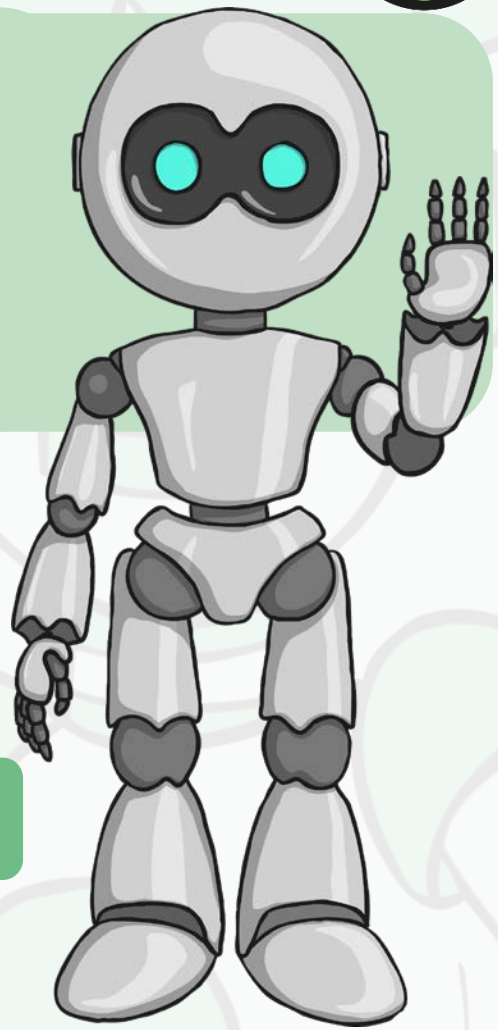
Program Your Friend!

Whole Class

Your friend is now a toy robot! Your job is to get them to do the tasks on the cards.

Remember, you have to tell them exactly how to do each step.

Which words will you need to use?



steps turn right sidestep half

left backwards forward quarter

clockwise anticlockwise three-quarters

Algorithms Without Words

What if we couldn't use words to program our robot? How else could we give it instructions?

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- I can check my work for mistakes (debug).