

## Challenge 1:

Write a program that says “Hello everyone”  
using the block shown



Find the Print block in the Text blocks area

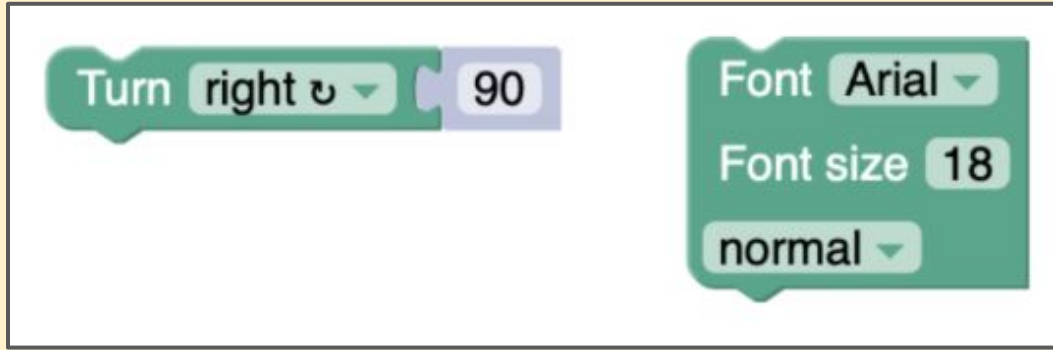
**Extension:** change what it says to something else

## Challenge 2:

Use the **display text** block to show some text on the screen  
This doesn't look great, so use the blocks shown to change the way your text looks (find them in the Turtle section)



Find Display Text in the Turtle blocks area

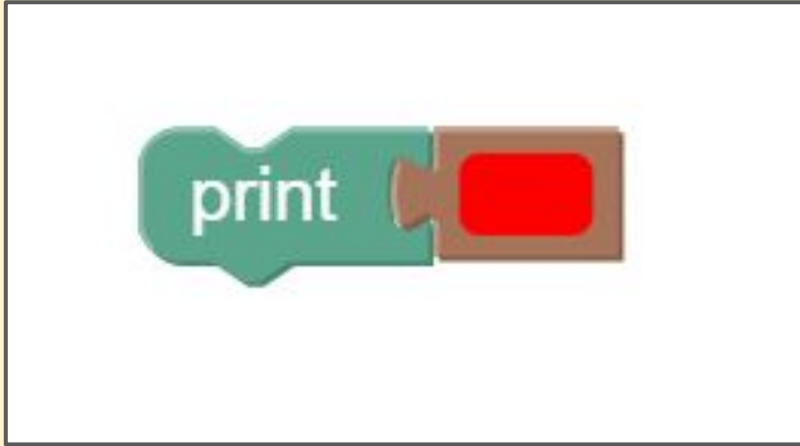


Use the extra blocks to change the text. Find these in the Turtle section

**Extension:** move the turtle so it's not in the way of the text message

### Challenge 3:

Try out the program shown below



**Extension:** Computers use different codes for each colour. We call these hex codes

The code for red is #ff0000

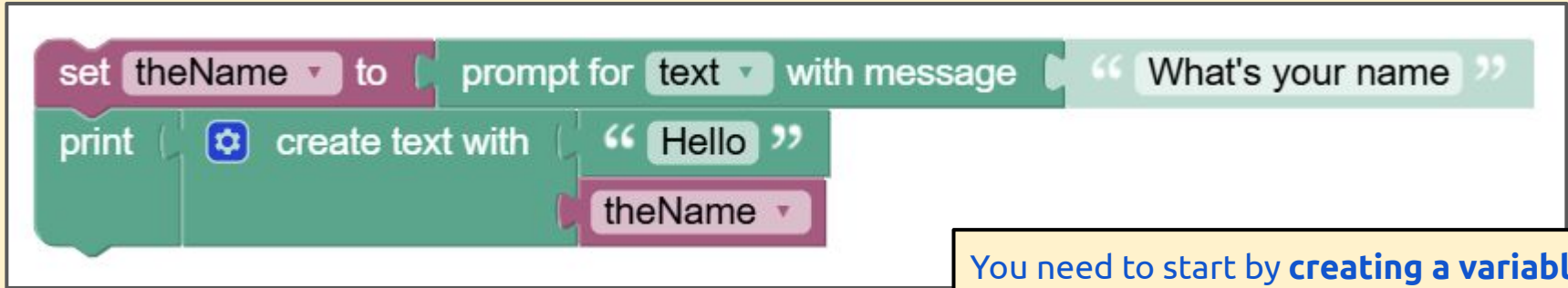
- Can you find the codes for other colours?
- Find out what happens with colours when you use the display text block instead of a print block
- Can you find out how colour codes work?

## Input/Output Tutorial:

We can get the user to enter words using the keyboard as well

This lets us deal with **input** as well as **output**

We need to **store** the value entered in a **variable**



The image shows a Scratch script with three blocks:

- A purple block: `set theName to`
- A green block: `prompt for text with message "What's your name"`
- A green block: `print` with a settings icon, containing `create text with "Hello"` and a dropdown menu showing `theName`.

You need to start by **creating a variable**  
All the other blocks come from the Text section

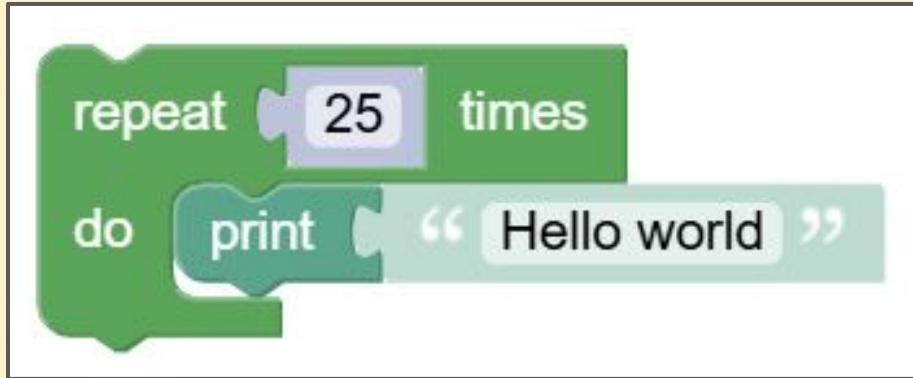
**Challenge:** add to the program to:

- Ask for the user's favourite animal and print it
- Then print your favourite animal
- Then say "goodbye" to the user, using their name

## Loops Tutorial:

Loops can be used to repeat code a number of times

Write this program. It's annoying



**Tip:** to stop the program you can either close the window or refresh the page (Ctrl+R).

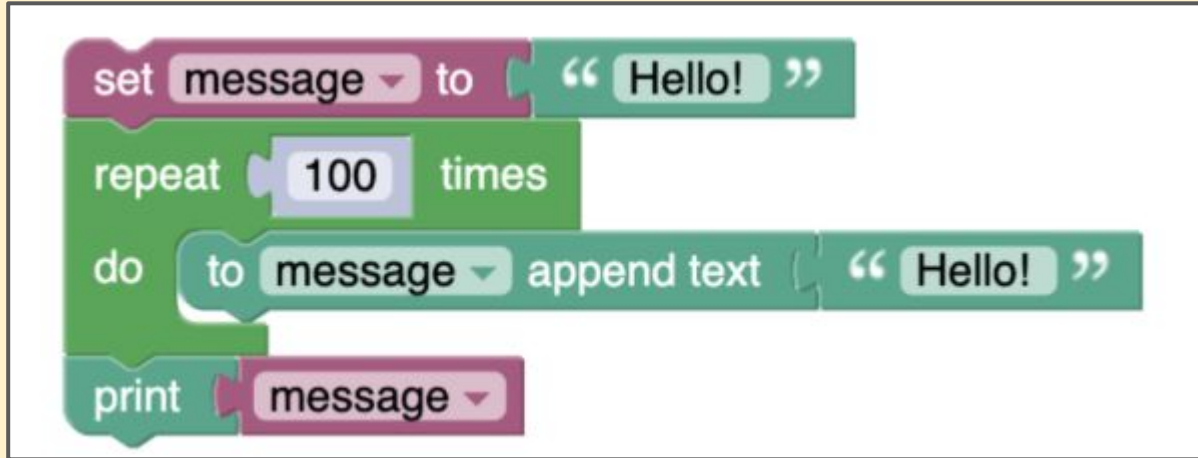
Sometimes loops can end up going on for ever and this might be the only way you can stop the program

## Challenge 4:

Write this program

**Before** running it, try to **predict** what it will do

Then run the program. Were you right?



```
set message to "Hello!"
repeat 100 times
do to message append text "Hello!"
print message
```

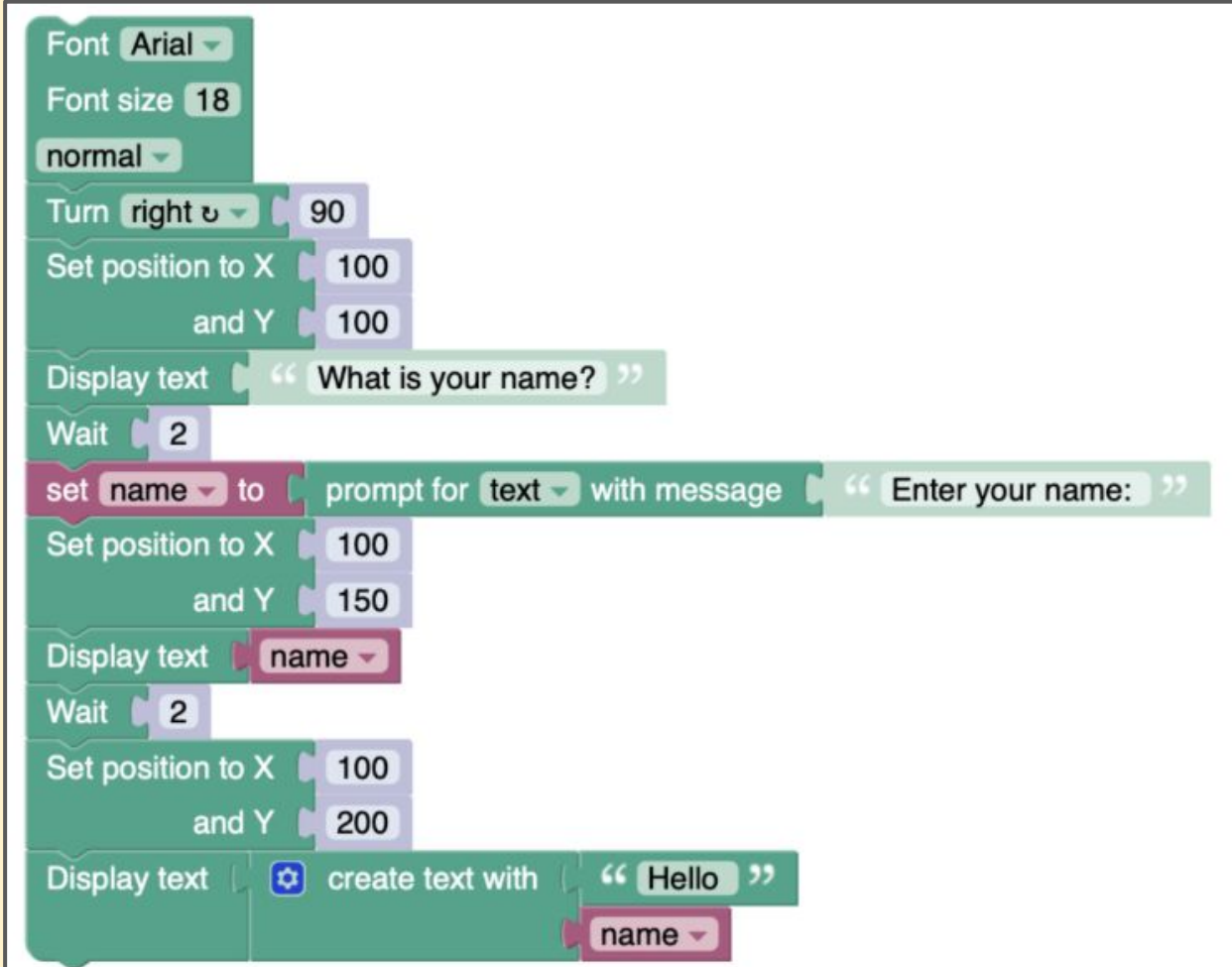
Screenshot the code and the output and write about what it did  
Was it what you expected to happen?

## Challenge 5:

Write this program to create a chatty program

### Extensions:

- hide the turtle so that it can't be seen
- change the colour of the user's text but make sure the computer's text is different
- add to the conversation to make it longer



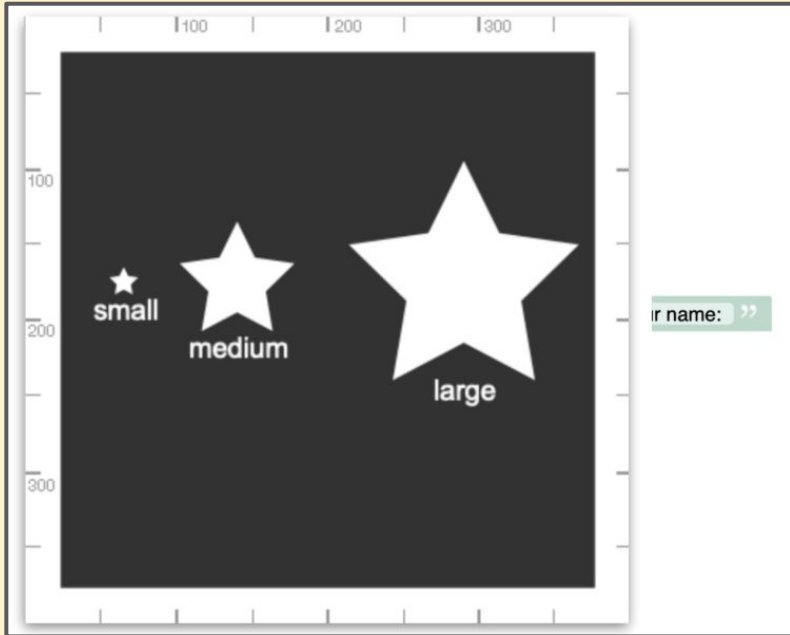
```
Font Arial
Font size 18
normal
Turn right 90
Set position to X 100 and Y 100
Display text "What is your name?"
Wait 2
set name to prompt for text with message "Enter your name:"
Set position to X 100 and Y 150
Display text name
Wait 2
Set position to X 100 and Y 200
Display text create text with "Hello" name
```

The image shows a Scratch script with the following blocks:

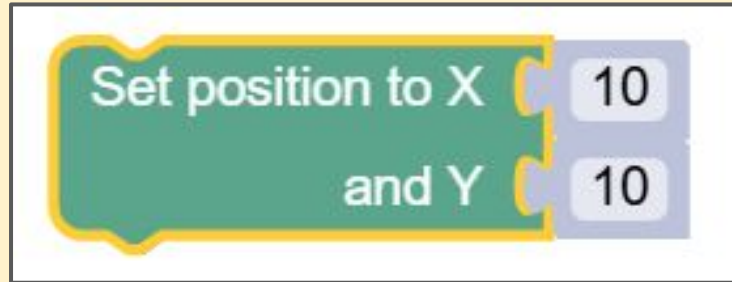
- Font: Arial, size 18, normal
- Turn right 90 degrees
- Set position to X: 100, Y: 100
- Display text: "What is your name?"
- Wait: 2 seconds
- set name to prompt for text with message: "Enter your name:"
- Set position to X: 100, Y: 150
- Display text: name
- Wait: 2 seconds
- Set position to X: 100, Y: 200
- Display text: create text with "Hello" name

## Challenge 6:

Write a program to create a diagram like this. You can use different shapes if you like. The shapes **must** be labelled



The Set Position block may be helpful here

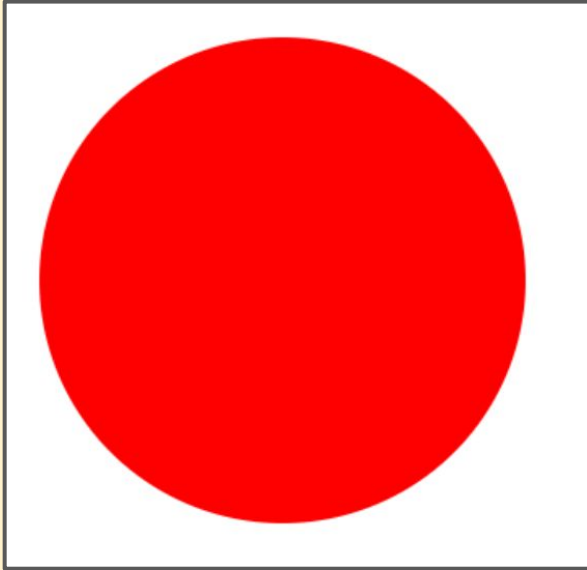


**Hint:** to make a shape use the **Draw** block. You covered shapes in the **Yellow Playground** so you can go back and look at your work from there if you need to

## Challenge 7:

Write a program to:

1. ask the user the size of the circle they want to draw
2. then draw a circle that size



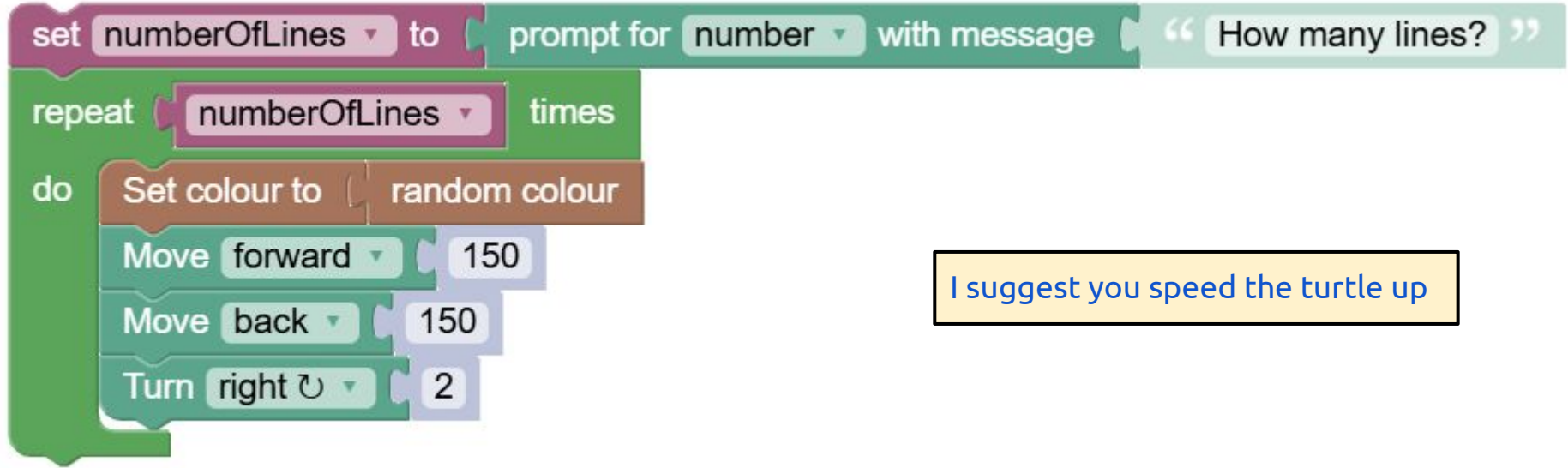
**Hint:** you will need to use an input block to get the size from the user

The input block will need to prompt for a number, not for text

You will need to store the input in a variable (see slide 4 for these skills)

## Challenge 8:

Write this program and enter 180 when it runs. What happens when you run the code?



```
set numberOfLines to prompt for number with message "How many lines?"
repeat numberOfLines times
do
  Set colour to random colour
  Move forward 150
  Move back 150
  Turn right 2
```

I suggest you speed the turtle up

## Challenges:

- Try entering a value other than 180. What happens?
- Change the forward and back to 100; change the turn to 1; enter 360 when you run the program. What happens now?

## Challenge 9:

Create a shape like this

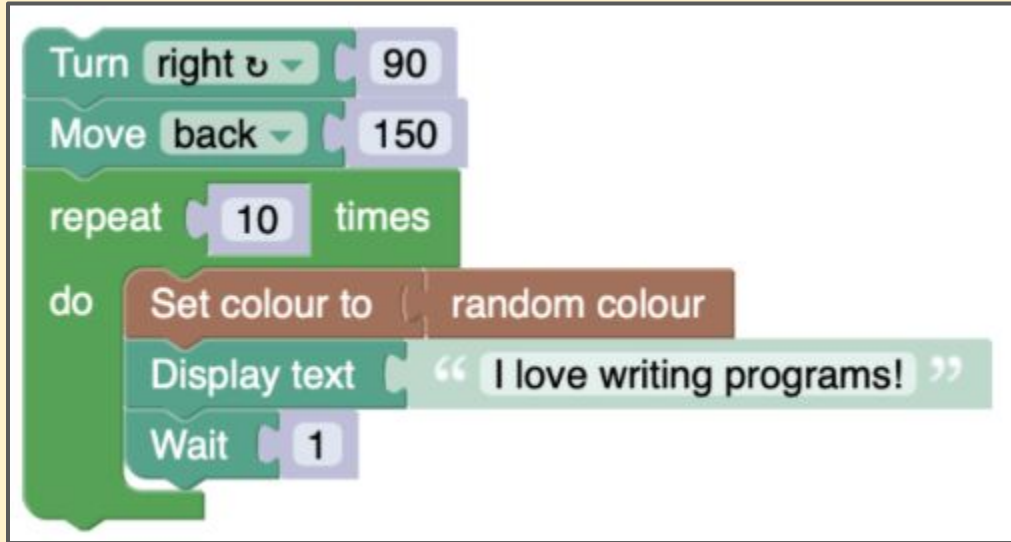


**Hint:** the skills from challenge 8 will help

## Challenge 10:

Write this program

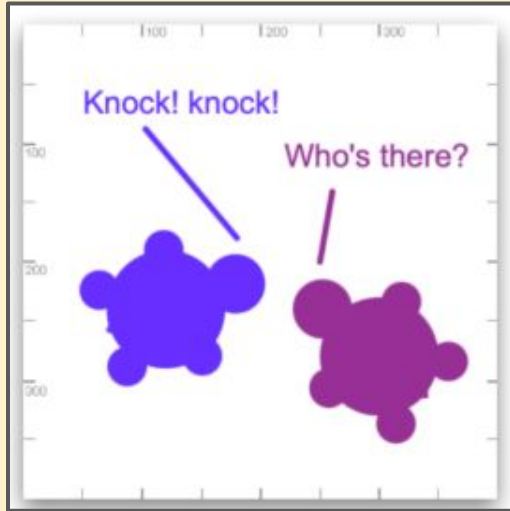
Then edit it to remove the line and the turtle



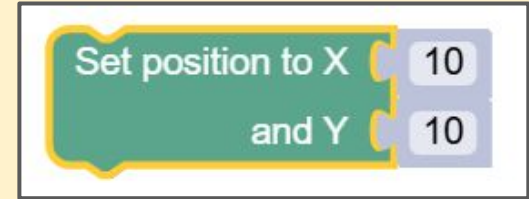
**Extension:** the wait block slows things down a bit. Try changing this to see what happens  
Then run the program again and change the speed to slow it down. Does it still wait as long?  
Now change the speed to make the program run as fast as possible. What happens to the wait time?

## Challenge 11:

Create a knock, knock joke using two turtles  
The text should appear line by line



The Set Position block will be essential here



**Key hint:** to remove text, draw a white shape over the top of it using code similar to that shown

