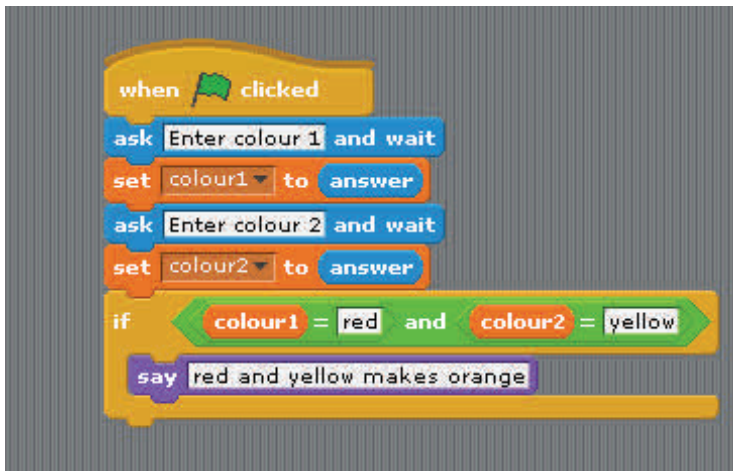




## Computer Programming - AND operators in SCRATCH

6

Programmers often have a need for the program to do something if two conditions are met. There are a number of ways of doing this; one way is to use an AND operator.



This simple program demonstrates how the AND operator can be used. As you can see two variables named *colour1* and *colour2* have been created and the user has been asked to enter two different colours. The If command is looking to see if *colour1* has been set to red AND if *colour2* has been set to yellow. If they both have (that is, both conditions have been met)

then the text *red and yellow makes orange* will be displayed. If one or both of *colour1* or *colour2* have not been met, then nothing will happen.

### Exercises

1. Create a program which uses the AND operator to test if two numbers have been entered. For example the numbers 5 and 6. You can copy the program above to a point, but change the variable names and the contents of the AND operator. The text displayed if a user does enter 5 and 6 into the two variables could say, "5 and 6 makes 11" Once the program has been tested and it is working, save it as AND1
2. Create a program which asks the user to enter *yes* to two different questions. For example, *Do you want to erase the file?* and *Are you sure you want to erase the file?* If *yes* is entered in response to both questions, and you are using an AND operator, the text displayed could be *The file has been deleted*. Once you have tested the program, save it as AND2
3. Modify the program you just created in Exercise 2 and add some code so that if a user does not enter *yes* to both questions, the program responds with the text: *The file was not deleted*. Once you have tested the program save it as AND3.

### Challenge

Write a program which checks that four variables have been entered. You must use AND operators. Once you have fully tested it and shown your teacher, save it as AND4.