

Computing

Lesson 3: Scope

Programming Part 4: Subroutines

Ben Garside

¹ *Materials from the Teach Computing Curriculum created by the National Centre for Computing Education*



Not 'going global' - Worked example 1

Program with global variables used

```
1 def double():
2     global num1
3     num1 = num1 * 2
4
5
6 num1 = int(input())
7
8 double()
9 print(num1)
```

Program with a function used instead

```
1 def double(a):
2     a = a * 2
3     return a
4
5
6 num1 = int(input())
7
8 num1 = double(num1)
9 print(num1)
```



Not 'going global' - Program 1

Modify the programs so that they no longer use global variables but perform the same task. Use the worked example on the first page as a demonstration of this. Make sure that you test your code against the original program to ensure that it works correctly.

Program with global variables used

```
1 def triple():
2     global num1
3     num1 = num1 * 3
4
5
6 num1 = int(input())
7
8 triple()
9 print(num1)
```

Converted program (paste your code below)

```
1
2
3
4
5
6
7
8
9
```



Not 'going global' - Program 2

Modify the programs so that they no longer use global variables but perform the same task. Use the worked example on the first page as a demonstration of this. Make sure that you test your code against the original program to ensure that it works correctly.

Program with global variables used

```
1 def increase_score():
2     global score
3     if answer == "Yes":
4         score = score + 1
5
6
7 score = 0
8 answer = "Yes"
9 increase_score()
10 print(score)
```

Converted program (paste your code below)

```
1
2
3
4
5
6
7
8
9
10
```

