

Fill in the functions

Finish the code, run it, and check it.

Name: _____

Date: _____

Part 1 Add up the red

```
def total_red(path):  
    img = Image.open(path)  
    pixels = np.array(img)
```

Write your code here

1. get the red channel: `pixels[:, :, ___]`
2. add up every value in it: `.sum()`

```
return _____ # what do we give back?
```

`total_red("cow-demo.jpg")` expected: 10218857

What did YOU get? _____ ☐ it matches

Part 2 One picture, one letter

```
def letter_for(path):  
    total = _____(path) # the red total (your function!)
```

Write your code here

1. remainder: `total __ 26`
2. pick that letter from `ALPHABET`

```
return _____ # the letter
```

`letter_for("cow-demo.jpg")` expected: Z

What did YOU get? _____ ☐ it matches

Part 3 The whole message

```
def decode_message():  
    message = ""          # starts empty  
    for _____ in range(____, ____):
```

Write your code here

1. find the picture: `image_path(...)`
2. get its letter (your function!)
3. stick it on the end: `message += ...`

```
return _____
```

Debugging checklist

- ☐ Did I `return` at the end?
- ☐ Is the loop body indented?
- ☐ Did I use `range(1, 38)` ? Why 38?
- ☐ Is my file in the same folder as `cow_message` ?
- ☐ Did I run the file with F5?
- ☐ Did I use `% 26` , not `/ 26` ?

Function	test worked?	notes
total_red		
letter_for		
decode_message		

Did the message make sense? How do you know it is right?

Stretch: other colours! Add up the GREEN (channel 1) or BLUE (channel 2) instead of red. Copy your functions, change the `0` , and see what comes out.