





Supercalifragilisticexpialidocious! Even though the sound of it Is something quite atrocious If you say it loud enough You'll always sound precocious Supercalifragilisticexpialidocious!

Um diddle diddle um diddle ay Um diddle diddle diddle um diddle ay!

Because I was afraid to speak When I was just a lad My father gave me nose a tweak And told me I was bad But then one day I learned a word That saved me achin' nose The biggest word I ever heard And this is how it goes: Oh!

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Um diddle diddle um diddle ay Um diddle diddle diddle um diddle ay!

He traveled all around the world And everywhere he went He'd use his word and all would say "There goes a clever gent" When Dukes and maharajas Pass the time of day with me I say me special word and then They ask me out for tea

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Functions

- Mini-algorithms inside a program are called functions.
- To use a function, we must define it first.

Defining a function

Gives your function a name so it can be run later

Syntax:

```
def name():
    statement  # Notice how these
    statement  # lines are indented.
    statement  # This is how Python knows
    ...  # where a function definition
    # begins and ends.
```

Pick a name for your function that describes what it does! (Just like you pick variable names that describe what the variable holds.)

Defining a function

Gives your function a name so it can be run later

Syntax:

```
def print_chorus():
    print("Supercalifragilisticexpialidocious!")
    print("Even though the sound of it")
    print("Is something quite atrocious")
    print("If you say it loud enough")
    print("You'll always sound precocious")
    print("Supercalifragilisticexpialidocious!")
```

Functions

- Mini-algorithms inside a program are called functions.
- To use a function, we must define it first.
- After defining a function, to run the code inside, you call the function.

Calling a function

Runs the code inside the function definition

Syntax:

name()

After defining a function, you can call it any number of times you want.

Each time it is called Python acts as if you had typed in all of the lines of the function definition.

The main() function

- From this point on, always define a main() function in your programs.
- Always call the main() function as the last line of your program.

```
def print chorus():
  print("Supercali...")
   (etc)
def print um diddle():
  print("Um diddle diddle...")
   (etc)
def print verse1():
  print("Because I was afraid to speak...")
   (etc)
# A function for the "main" program.
def main():
   print chorus() # Print the chorus
   print um diddle() # Print the um diddles
   print verse1() # Print the 1st verse
   print chorus() # Print the chorus again
   print um diddle()  # Print the um diddles again
   print verse2() # Print the 2<sup>nd</sup> verse
   print chorus()
                        # Print the chorus the last time
main()
                         # Start the program
```

- You are in charge of dessert for Thanksgiving dinner. You decide to make two pumpkin pies and an apple pie.
- Write a program that defines three functions:
 - make_apple() should print a description of how to make an apple pie
 - make_pumpkin should print a description of how to make a pumpkin pie
 - main() should *call* make_apple() and make_pumpkin() appropriately to make the pies.
- Don't forget to call main() at the end of your code!

- When a function is called, Python will
 - "jump" to the first line of the function's definition,
 - run all the lines of code inside the definition, then
 - "jump" back to the point where the function was called.

```
def twinkle():
1
    print("Twinkle twinkle little star")
    print("How I wonder what you are")
  def main():
4
5
     twinkle() # Call (run) the twinkle function.
      print("Up above the world so high")
6
     print("Like a diamond in the sky")
               # Call the twinkle function again.
     twinkle()
                      # Call main() to start the program.
  main()
9
```