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The slides are meant as visual support for the lecture.  
They are neither a documentation nor a script.

Please do not print the slides.

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# FIRST PROGRAM

```
print("hello, world")
```

use functions

arguments / parameter

comments

```
# this is a comment  
print("hello, world")
```



```
# this is a comment  
print("hello, world") # another comment
```

```
'''  
a multi-line comment  
for longer descriptions  
'''  
print("hello, world")
```

bugs

syntax errors

runtime errors

user input

```
user_name = input("What's your name? ")
```

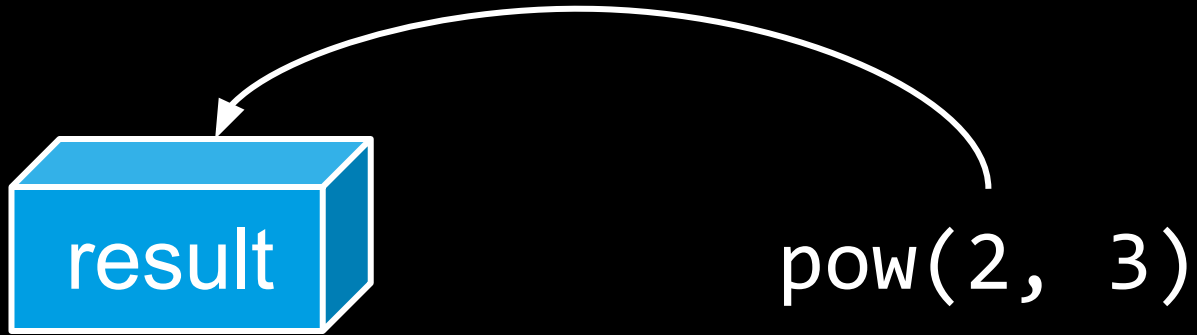
return values

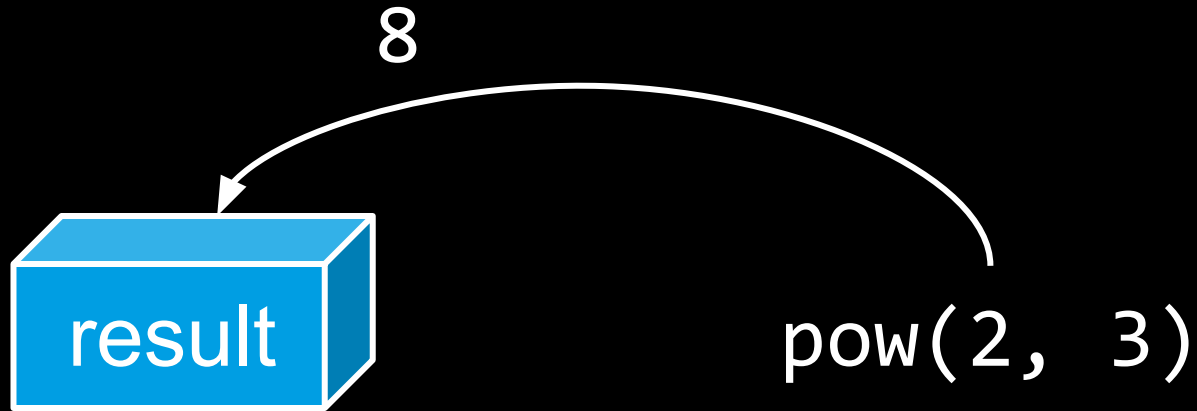


```
result = pow(2, 3)
```


# VARIABLES







```
exp = 4  
result = pow(2, exp)
```

 = 4

result = pow(2, )

```
exp = 4  
result = pow(2, exp)  
print(result)
```



pseudocode

# step 1: determine exponent

# step 2: calculate power

# step 3: print result

problem solving → divide and conquer

# step 1: determine exponent

# step 2: calculate power

# step 3: print result

```
# step 1: determine exponent
```

```
exp = 4
```

```
# step 2: calculate power
```

```
# step 3: print result
```

```
# step 1: determine exponent
```

```
exp = 4
```

```
# step 2: calculate power
```

```
result = pow(2, exp)
```

```
# step 3: print result
```

```
# step 1: determine exponent
```

```
exp = 4
```

```
# step 2: calculate power
```

```
result = pow(2, exp)
```

```
# step 3: print result
```

```
print(result)
```

# FUNCTIONS



create functions

```
def greet():  
    print("hello")
```

parameters

```
def greet(name):  
    print(f"hello {name}")
```

# EXPRESSIONS

operators

logic

math



data types

integer

float

boolean

string

```
strip()  
capitalize()  
title()
```

format strings

```
print(f"Hello {name}")
```