Index

*Page numbers that end with ‘t’ refer to tables, and that end with ‘f’ refer to figures.*

Symbols & Numbers

♞ black chess knight character, 21

@ at symbol, 48, 52. See also class: decorator; function: decorators

A

Atom format, 159

atomic operations, 143

B

**bold,** *italic, bold-italic*, 1

bound method. See function. See also unbound method

Bresenham’s line algorithm, 130–31

C

callback. See function: reference

Charles I (king of England), 3–10, 71–72, 96–117

Charles I (king of Portugal), 100–104, 1100–1113

class

attributes (see also special methods and under attribute names)

\_\_class\_\_, 25, 222

decorator, 36, 48, 54–59 (see also function)

Class, 21, 32–35; \_\_doc\_\_, 50

dynamic creation, 20–24

concatenation, tuple, 109

D

docstring

E

*e = mc*2, 2

eval() (built-in), 20–21, 25, 84–88

F

faculty clubs, 101–8, 808–33, 1103–4

FBI (Federal Bureau of Investigation), 321–28, 498–532, 1087–89, 1496–500, 11564–615, 12991–3001

Federal Bureau of Investigation (FBI), 321–28, 498–532, 1087–89, 1496–500, 11564–615, 12991–3001

function

arguments, 13, 50

built-in

decorators

@property, 42, 44, 48, 54, 56, 58, 60, 104, 110, 115, 278

@staticmethod, 120, 121, 129, 133

standard

remove(), 43, 91; list (type), 43; os (module), 217

decorators, 48–53

docstring (see docstring)

nested, 58

object, 63

reference, 60–62, 70, 87, 112

G

grab, 236

H

hierarchy, object, 40–48

hierarchy, ownership, 234

I

interface checking, 30–32, 35–36

inter-process communication (IPC), 141

IPC (inter-process communication), 14

J

JIT (Just In Time compiler), 179

**JSON-RPC**, 204

Just In Time compiler (JIT), 179

K

keyboard handing, 234, 242, 249, 250, 252, 257, 258, 269, 272, 281

L

line algorithm, Bresenham’s, 130–31

lines, painting, 130–31, 271

list comprehensions, 18, 38, 49, 80, 123

lstrip() (str type), 93

M

main windows vs. dialogs, 235

memory, shared, 141

Menu (type; tkinter module), 257*f*, **258–59**

N

now() (datetime.datetime type), 208–9, 213, 218, 226

number, magic, 135

O

-O optimize flag, 30

operations, atomic, 143

P

painting

shapes

2D

primitives; lines, 130–31, 271

3D

cylinders, 268

spheres, 277

windows, 267, 275

@property (built-in), 42, 44, 48, 54, 56, 58, 60, 104, 110, 115, 278

Q

qsize() (queue.Queue type), 160

queue (module)

datatypes

Queue (type), 156, 158

methods; get(), 158; join(), 160–61; put(), 158; qsize(), 160; task\_done(), 158

R

real events, 242–43

references

function, 60–62, 70, 87 (see function; virtual events)

image, 256

object, 64–67

remove(), 43, 91

list (type), 43

os (module), 217

resizing, window, 269, 275

S

sentinel, 96

sequence unpacking, 13, 26, 30–31, 70, 109

serialized access, 141–42, 143–44, 154

SHA-256, 206

shared data, 141, 143–44, 154

shown <furnace>

special methods. See also class: attributes

\_\_eq\_\_(), 48

\_\_len\_\_(), 99, 223

\_\_next\_\_(), 97

\_\_str\_\_(), 18

sphere, painting, 277

state-sensitive methods, 114–15

@staticmethod (built-in), 120, 121, 129, 133

status bar, 260–61

str (type; built-in), 19–20, 66

encode(), 185, **186**, 190, *191*, 266

endswith(), 62, 120, 121

format(), 13, 21, 32, 37, 92, 109

join(), 15, 18, 87, **92**, 111, 122, 136

lstrip(), 93

title(), 20–21

subscript3, 3

sys (module)

executable, 92, 216

exit(), 91

modules (dictionary), 22–23, 25

path (list), 126

platform, 85–86

T

10 downing street, 10

toolbar, 261–62

U

unbound method, 63, 69, 70. See also function

Unicode, 17, **20–21**, 131, 215, 243. See also UTF-8

UTF-8, 17, 66, 121, 160, 182, 185, 243

V

virtual events, 242–43

W

windows

and classes, 234

dock, 261–62

main, 255–62

main vs. dialogs, 235

modal, 236–37

painting, 267, 275

resizing, 269, 275

X

**XBM** (image format), 39, 125, 136

xref. See also class: dynamic creation

xref #2. See also class: decorator

xref #3. See class

Y

yield (statement), 44, 76–79, 100, 105, 139, 153, 160