

pystroke

API Documentation

April 3, 2013

Contents

Contents	1
1 Package pystroke	3
1.1 Modules	3
1.2 Variables	3
2 Module pystroke.behaviour	4
2.1 Variables	4
2.2 Class Behaviour	4
2.2.1 Methods	4
3 Module pystroke.behaviour_engine	5
3.1 Variables	5
3.2 Class BehaviourEngine	5
3.2.1 Methods	5
4 Module pystroke.draw_engine	6
4.1 Variables	6
4.2 Class DrawEngine	11
4.2.1 Methods	11
5 Module pystroke.event_engine	12
5.1 Variables	12
5.2 Class EventEngine	17
5.2.1 Methods	17
6 Module pystroke.game	18
6.1 Functions	18
6.2 Variables	18
6.3 Class Game	18
6.3.1 Methods	18
7 Module pystroke.game_engine	19
7.1 Variables	19
7.2 Class GameEngine	24
7.2.1 Methods	24
8 Module pystroke.hud	26

8.1	Variables	26
8.2	Class HUDElement	31
8.2.1	Methods	31
8.3	Class HUDText	32
8.3.1	Methods	32
8.3.2	Class Variables	32
8.4	Class HUDLine	33
8.4.1	Methods	33
8.5	Class HUDPolygon	33
8.5.1	Methods	34
8.6	Class HUD	34
8.6.1	Methods	34
9	Module pystroke.input_engine	36
9.1	Variables	36
9.2	Class InputEngine	41
9.2.1	Methods	41
10	Module pystroke.locals	43
10.1	Variables	43
11	Module pystroke.vector2	44
11.1	Variables	44
11.2	Class Vector2	44
11.2.1	Methods	44
12	Module pystroke.vector2_test	49
12.1	Variables	49
12.2	Class TestVector2	49
12.2.1	Methods	49
12.2.2	Properties	50
12.2.3	Class Variables	50
12.3	Class TestMagnitude	50
12.3.1	Methods	50
12.3.2	Properties	51
12.3.3	Class Variables	51
12.4	Class TestNormalised	51
12.4.1	Methods	51
12.4.2	Properties	52
12.4.3	Class Variables	52
12.5	Class TestDotProduct	52
12.5.1	Methods	53
12.5.2	Properties	53
12.5.3	Class Variables	53
12.6	Class TestCrossProduct	54
12.6.1	Methods	54
12.6.2	Properties	54
12.6.3	Class Variables	55
13	Module pystroke.vex	56
13.1	Variables	56
13.2	Class Vex	62

13.2.1	Methods	62
13.2.2	Class Variables	68
Index		69

1 Package pystroke

1.1 Modules

- **behaviour** (*Section 2, p. 4*)
- **behaviour_engine** (*Section 3, p. 5*)
- **draw_engine** (*Section 4, p. 6*)
- **event_engine** (*Section 5, p. 12*)
- **game** (*Section 6, p. 18*)
- **game_engine** (*Section 7, p. 19*)
- **hud** (*Section 8, p. 26*)
- **input_engine** (*Section 9, p. 36*)
- **locals** (*Section 10, p. 43*)
- **vector2** (*Section 11, p. 44*)
- **vector2_test** (*Section 12, p. 49*)
- **vex** (*Section 13, p. 56*)

1.2 Variables

Name	Description
<code>__package__</code>	Value: None

2 Module *pystroke.behaviour*

2.1 Variables

Name	Description
<code>__package__</code>	Value: <code>'pystroke'</code>

2.2 Class Behaviour

Stores a modular behaviour that can be added to a game entity

Author: James Heslin (PROGRAM_IX)

2.2.1 Methods

<code>__init__(self, name)</code> <hr/> Creates a new Behaviour Parameters name: The name of the Behaviour (<i>type=string</i>) Author: James Heslin (PROGRAM_IX)
<code>process(self, entity)</code> <hr/> Performs the operations making up the Behaviour on the game entity Parameters entity: The game entity affected by the Behaviour (<i>type=Vex</i>) Author: James Heslin (PROGRAM_IX)

3 Module *pystroke.behaviour_engine*

3.1 Variables

Name	Description
<code>__package__</code>	Value: 'pystroke'

3.2 Class *BehaviourEngine*

Processes all behaviours in `beh_dict` when `update()` is called

Author: James Heslin (PROGRAM_IX)

3.2.1 Methods

<code>__init__(self, beh_dict={})</code>
Construct a new <i>BehaviourEngine</i> with a list of Behaviours
Parameters
<code>beh_dict</code> : The list of Behaviours this <i>BehaviourEngine</i> will use (<i>type=</i> <code>dict</code> (<i>Behaviour</i>))
Author: James Heslin (PROGRAM_IX)

<code>update(self)</code>
Process all behaviours in <code>beh_dict</code>
Author: James Heslin (PROGRAM_IX)

4 Module `pystroke.draw_engine`

4.1 Variables

Name	Description
ACTIVEEVENT	Value: 1
ANYFORMAT	Value: 268435456
ASYNCBLIT	Value: 4
AUDIO_S16	Value: 32784
AUDIO_S16LSB	Value: 32784
AUDIO_S16MSB	Value: 36880
AUDIO_S16SYS	Value: 32784
AUDIO_S8	Value: 32776
AUDIO_U16	Value: 16
AUDIO_U16LSB	Value: 16
AUDIO_U16MSB	Value: 4112
AUDIO_U16SYS	Value: 16
AUDIO_U8	Value: 8
BIG_ENDIAN	Value: 4321
BLEND_ADD	Value: 1
BLEND_MAX	Value: 5
BLEND_MIN	Value: 4
BLEND_MULT	Value: 3
BLEND_RGBA_ADD	Value: 6
BLEND_RGBA_MAX	Value: 16
BLEND_RGBA_MIN	Value: 9
BLEND_RGBA_MULT	Value: 8
BLEND_RGBA_SUB	Value: 7
BLEND_RGB_ADD	Value: 1
BLEND_RGB_MAX	Value: 5
BLEND_RGB_MIN	Value: 4
BLEND_RGB_MULT	Value: 3
BLEND_RGB_SUB	Value: 2
BLEND_SUB	Value: 2
BUTTON_X1	Value: 6
BUTTON_X2	Value: 7
DOUBLEBUF	Value: 1073741824
FULLSCREEN	Value: -2147483648
GL_ACCELERATED_VISUAL	Value: 15
GL_ACCUM_ALPHA_SIZE	Value: 11
GL_ACCUM_BLUE_SIZE	Value: 10
GL_ACCUM_GREEN_SIZE	Value: 9
GL_ACCUM_RED_SIZE	Value: 8
GL_ALPHA_SIZE	Value: 3
GL_BLUE_SIZE	Value: 2
GL_BUFFER_SIZE	Value: 4
GL_DEPTH_SIZE	Value: 6
GL_DOUBLEBUFFER	Value: 5
GL_GREEN_SIZE	Value: 1

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Name	Description
GL_MULTISAMPLEBUFFERS	Value: 13
GL_MULTISAMPLESAMPLES	Value: 14
GL_RED_SIZE	Value: 0
GL_STENCIL_SIZE	Value: 7
GL_STEREO	Value: 12
GL_SWAP_CONTROL	Value: 16
HAT_CENTERED	Value: 0
HAT_DOWN	Value: 4
HAT_LEFT	Value: 8
HAT_LEFTDOWN	Value: 12
HAT_LEFTUP	Value: 9
HAT_RIGHT	Value: 2
HAT_RIGHTDOWN	Value: 6
HAT_RIGHTUP	Value: 3
HAT_UP	Value: 1
HWACCEL	Value: 256
HWPALETTE	Value: 536870912
HWSURFACE	Value: 1
IYUV_OVERLAY	Value: 1448433993
JOYAXISMOTION	Value: 7
JOYBALLMOTION	Value: 8
JOYBUTTONDOWN	Value: 10
JOYBUTTONUP	Value: 11
JOYHATMOTION	Value: 9
KEYDOWN	Value: 2
KEYUP	Value: 3
KMOD_ALT	Value: 768
KMOD_CAPS	Value: 8192
KMOD_CTRL	Value: 192
KMOD_LALT	Value: 256
KMOD_LCTRL	Value: 64
KMOD_LMETA	Value: 1024
KMOD_LSHIFT	Value: 1
KMOD_META	Value: 3072
KMOD_MODE	Value: 16384
KMOD_NONE	Value: 0
KMOD_NUM	Value: 4096
KMOD_RALT	Value: 512
KMOD_RCTRL	Value: 128
KMOD_RMETA	Value: 2048
KMOD_RSHIFT	Value: 2
KMOD_SHIFT	Value: 3
K_0	Value: 48
K_1	Value: 49
K_2	Value: 50
K_3	Value: 51
K_4	Value: 52
K_5	Value: 53

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Name	Description
K_6	Value: 54
K_7	Value: 55
K_8	Value: 56
K_9	Value: 57
K_AMPERSAND	Value: 38
K_ASTERISK	Value: 42
K_AT	Value: 64
K_BACKQUOTE	Value: 96
K_BACKSLASH	Value: 92
K_BACKSPACE	Value: 8
K_BREAK	Value: 318
K_CAPSLOCK	Value: 301
K_CARET	Value: 94
K_CLEAR	Value: 12
K_COLON	Value: 58
K_COMMA	Value: 44
K_DELETE	Value: 127
K_DOLLAR	Value: 36
K_DOWN	Value: 274
K_END	Value: 279
K_EQUALS	Value: 61
K_ESCAPE	Value: 27
K_EURO	Value: 321
K_EXCLAIM	Value: 33
K_F1	Value: 282
K_F10	Value: 291
K_F11	Value: 292
K_F12	Value: 293
K_F13	Value: 294
K_F14	Value: 295
K_F15	Value: 296
K_F2	Value: 283
K_F3	Value: 284
K_F4	Value: 285
K_F5	Value: 286
K_F6	Value: 287
K_F7	Value: 288
K_F8	Value: 289
K_F9	Value: 290
K_FIRST	Value: 0
K_GREATER	Value: 62
K_HASH	Value: 35
K_HELP	Value: 315
K_HOME	Value: 278
K_INSERT	Value: 277
K_KP0	Value: 256
K_KP1	Value: 257
K_KP2	Value: 258
K_KP3	Value: 259
K_KP4	Value: 260

continued on next page

Name	Description
K_KP5	Value: 261
K_KP6	Value: 262
K_KP7	Value: 263
K_KP8	Value: 264
K_KP9	Value: 265
K_KP_DIVIDE	Value: 267
K_KP_ENTER	Value: 271
K_KP_EQUALS	Value: 272
K_KP_MINUS	Value: 269
K_KP_MULTIPLY	Value: 268
K_KP_PERIOD	Value: 266
K_KP_PLUS	Value: 270
K_LALT	Value: 308
K_LAST	Value: 323
K_LCTRL	Value: 306
K_LEFT	Value: 276
K_LEFTBRACKET	Value: 91
K_LEFTPAREN	Value: 40
K_LESS	Value: 60
K_LMETA	Value: 310
K_LSHIFT	Value: 304
K_LSUPER	Value: 311
K_MENU	Value: 319
K_MINUS	Value: 45
K_MODE	Value: 313
K_NUMLOCK	Value: 300
K_PAGEDOWN	Value: 281
K_PAGEUP	Value: 280
K_PAUSE	Value: 19
K_PERIOD	Value: 46
K_PLUS	Value: 43
K_POWER	Value: 320
K_PRINT	Value: 316
K_QUESTION	Value: 63
K_QUOTE	Value: 39
K_QUOTEDBL	Value: 34
K_RALT	Value: 307
K_RCTRL	Value: 305
K_RETURN	Value: 13
K_RIGHT	Value: 275
K_RIGHTBRACKET	Value: 93
K_RIGHTPAREN	Value: 41
K_RMETA	Value: 309
K_RSHIFT	Value: 303
K_RSUPER	Value: 312
K_SCROLLOCK	Value: 302
K_SEMICOLON	Value: 59
K_SLASH	Value: 47
K_SPACE	Value: 32
K_SYSREQ	Value: 317

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Name	Description
K_TAB	Value: 9
K_UNDERSCORE	Value: 95
K_UNKNOWN	Value: 0
K_UP	Value: 273
K_a	Value: 97
K_b	Value: 98
K_c	Value: 99
K_d	Value: 100
K_e	Value: 101
K_f	Value: 102
K_g	Value: 103
K_h	Value: 104
K_i	Value: 105
K_j	Value: 106
K_k	Value: 107
K_l	Value: 108
K_m	Value: 109
K_n	Value: 110
K_o	Value: 111
K_p	Value: 112
K_q	Value: 113
K_r	Value: 114
K_s	Value: 115
K_t	Value: 116
K_u	Value: 117
K_v	Value: 118
K_w	Value: 119
K_x	Value: 120
K_y	Value: 121
K_z	Value: 122
LIL_ENDIAN	Value: 1234
MOUSEBUTTONDOWN	Value: 5
MOUSEBUTTONUP	Value: 6
MOUSEMOTION	Value: 4
NOEVENT	Value: 0
NOFRAME	Value: 32
NUMEVENTS	Value: 32
OPENGL	Value: 2
OPENGLBLIT	Value: 10
PREALLOC	Value: 16777216
QUIT	Value: 12
RESIZABLE	Value: 16
RLEACCEL	Value: 16384
RLEACCELOK	Value: 8192
SCRAP_BMP	Value: 'image/bmp'
SCRAP_CLIPBOARD	Value: 0
SCRAP_PBM	Value: 'image/pbm'
SCRAP_PPM	Value: 'image/ppm'
SCRAP_SELECTION	Value: 1
SCRAP_TEXT	Value: 'text/plain'

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Name	Description
SRCALPHA	Value: 65536
SRCCOLORKEY	Value: 4096
SWSURFACE	Value: 0
SYSWMEVENT	Value: 13
TIMER_RESOLUTION	Value: 10
USEREVENT	Value: 24
UYVY_OVERLAY	Value: 1498831189
VIDEOEXPOSE	Value: 17
VIDEORESIZE	Value: 16
YUY2_OVERLAY	Value: 844715353
YV12_OVERLAY	Value: 842094169
YVYU_OVERLAY	Value: 1431918169
__package__	Value: 'pystroke'

4.2 Class DrawEngine

Abstracts the calls to Vex.draw() and other drawing methods

Author: James Heslin (PROGRAM_IX)

4.2.1 Methods

__init__ (<i>self</i> , <i>screen</i>)
draw (<i>self</i> , <i>drawables</i>) <hr/> Presumes everything in the drawables list has a draw() method, and draws all of them to screen. Parameters <i>drawables</i> : The list of objects to draw (all must have a draw() method) <i>(type=list)</i> Author: James Heslin (PROGRAM_IX)
begin_draw (<i>self</i> , <i>colour</i>) <hr/> Clears the screen to prepare for drawing Parameters <i>colour</i> : The colour to fill the screen with <i>(type=pygame.Color)</i> Author: James Heslin (PROGRAM_IX)
end_draw (<i>self</i>) <hr/> Updates the screen after draws have finished Author: James Heslin (PROGRAM_IX)

5 Module `pystroke.event_engine`

5.1 Variables

Name	Description
ACTIVEEVENT	Value: 1
ANYFORMAT	Value: 268435456
ASYNCBLIT	Value: 4
AUDIO_S16	Value: 32784
AUDIO_S16LSB	Value: 32784
AUDIO_S16MSB	Value: 36880
AUDIO_S16SYS	Value: 32784
AUDIO_S8	Value: 32776
AUDIO_U16	Value: 16
AUDIO_U16LSB	Value: 16
AUDIO_U16MSB	Value: 4112
AUDIO_U16SYS	Value: 16
AUDIO_U8	Value: 8
BIG_ENDIAN	Value: 4321
BLEND_ADD	Value: 1
BLEND_MAX	Value: 5
BLEND_MIN	Value: 4
BLEND_MULT	Value: 3
BLEND_RGBA_ADD	Value: 6
BLEND_RGBA_MAX	Value: 16
BLEND_RGBA_MIN	Value: 9
BLEND_RGBA_MULT	Value: 8
BLEND_RGBA_SUB	Value: 7
BLEND_RGB_ADD	Value: 1
BLEND_RGB_MAX	Value: 5
BLEND_RGB_MIN	Value: 4
BLEND_RGB_MULT	Value: 3
BLEND_RGB_SUB	Value: 2
BLEND_SUB	Value: 2
BUTTON_X1	Value: 6
BUTTON_X2	Value: 7
DOUBLEBUF	Value: 1073741824
FULLSCREEN	Value: -2147483648
GL_ACCELERATED_VISUAL	Value: 15
GL_ACCUM_ALPHA_SIZE	Value: 11
GL_ACCUM_BLUE_SIZE	Value: 10
GL_ACCUM_GREEN_SIZE	Value: 9
GL_ACCUM_RED_SIZE	Value: 8
GL_ALPHA_SIZE	Value: 3
GL_BLUE_SIZE	Value: 2
GL_BUFFER_SIZE	Value: 4
GL_DEPTH_SIZE	Value: 6
GL_DOUBLEBUFFER	Value: 5
GL_GREEN_SIZE	Value: 1

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Name	Description
GL_MULTISAMPLEBUFFERS	Value: 13
GL_MULTISAMPLESAMPLES	Value: 14
GL_RED_SIZE	Value: 0
GL_STENCIL_SIZE	Value: 7
GL_STEREO	Value: 12
GL_SWAP_CONTROL	Value: 16
HAT_CENTERED	Value: 0
HAT_DOWN	Value: 4
HAT_LEFT	Value: 8
HAT_LEFTDOWN	Value: 12
HAT_LEFTUP	Value: 9
HAT_RIGHT	Value: 2
HAT_RIGHTDOWN	Value: 6
HAT_RIGHTUP	Value: 3
HAT_UP	Value: 1
HWACCEL	Value: 256
HWPALETTE	Value: 536870912
HWSURFACE	Value: 1
IYUV_OVERLAY	Value: 1448433993
JOYAXISMOTION	Value: 7
JOYBALLMOTION	Value: 8
JOYBUTTONDOWN	Value: 10
JOYBUTTONUP	Value: 11
JOYHATMOTION	Value: 9
KEYDOWN	Value: 2
KEYUP	Value: 3
KMOD_ALT	Value: 768
KMOD_CAPS	Value: 8192
KMOD_CTRL	Value: 192
KMOD_LALT	Value: 256
KMOD_LCTRL	Value: 64
KMOD_LMETA	Value: 1024
KMOD_LSHIFT	Value: 1
KMOD_META	Value: 3072
KMOD_MODE	Value: 16384
KMOD_NONE	Value: 0
KMOD_NUM	Value: 4096
KMOD_RALT	Value: 512
KMOD_RCTRL	Value: 128
KMOD_RMETA	Value: 2048
KMOD_RSHIFT	Value: 2
KMOD_SHIFT	Value: 3
K_0	Value: 48
K_1	Value: 49
K_2	Value: 50
K_3	Value: 51
K_4	Value: 52
K_5	Value: 53

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Name	Description
K_6	Value: 54
K_7	Value: 55
K_8	Value: 56
K_9	Value: 57
K_AMPERSAND	Value: 38
K_ASTERISK	Value: 42
K_AT	Value: 64
K_BACKQUOTE	Value: 96
K_BACKSLASH	Value: 92
K_BACKSPACE	Value: 8
K_BREAK	Value: 318
K_CAPSLOCK	Value: 301
K_CARET	Value: 94
K_CLEAR	Value: 12
K_COLON	Value: 58
K_COMMA	Value: 44
K_DELETE	Value: 127
K_DOLLAR	Value: 36
K_DOWN	Value: 274
K_END	Value: 279
K_EQUALS	Value: 61
K_ESCAPE	Value: 27
K_EURO	Value: 321
K_EXCLAIM	Value: 33
K_F1	Value: 282
K_F10	Value: 291
K_F11	Value: 292
K_F12	Value: 293
K_F13	Value: 294
K_F14	Value: 295
K_F15	Value: 296
K_F2	Value: 283
K_F3	Value: 284
K_F4	Value: 285
K_F5	Value: 286
K_F6	Value: 287
K_F7	Value: 288
K_F8	Value: 289
K_F9	Value: 290
K_FIRST	Value: 0
K_GREATER	Value: 62
K_HASH	Value: 35
K_HELP	Value: 315
K_HOME	Value: 278
K_INSERT	Value: 277
K_KP0	Value: 256
K_KP1	Value: 257
K_KP2	Value: 258
K_KP3	Value: 259
K_KP4	Value: 260

continued on next page

Name	Description
K_KP5	Value: 261
K_KP6	Value: 262
K_KP7	Value: 263
K_KP8	Value: 264
K_KP9	Value: 265
K_KP_DIVIDE	Value: 267
K_KP_ENTER	Value: 271
K_KP_EQUALS	Value: 272
K_KP_MINUS	Value: 269
K_KP_MULTIPLY	Value: 268
K_KP_PERIOD	Value: 266
K_KP_PLUS	Value: 270
K_LALT	Value: 308
K_LAST	Value: 323
K_LCTRL	Value: 306
K_LEFT	Value: 276
K_LEFTBRACKET	Value: 91
K_LEFTPAREN	Value: 40
K_LESS	Value: 60
K_LMETA	Value: 310
K_LSHIFT	Value: 304
K_LSUPER	Value: 311
K_MENU	Value: 319
K_MINUS	Value: 45
K_MODE	Value: 313
K_NUMLOCK	Value: 300
K_PAGEDOWN	Value: 281
K_PAGEUP	Value: 280
K_PAUSE	Value: 19
K_PERIOD	Value: 46
K_PLUS	Value: 43
K_POWER	Value: 320
K_PRINT	Value: 316
K_QUESTION	Value: 63
K_QUOTE	Value: 39
K_QUOTEDBL	Value: 34
K_RALT	Value: 307
K_RCTRL	Value: 305
K_RETURN	Value: 13
K_RIGHT	Value: 275
K_RIGHTBRACKET	Value: 93
K_RIGHTPAREN	Value: 41
K_RMETA	Value: 309
K_RSHIFT	Value: 303
K_RSUPER	Value: 312
K_SCROLLOCK	Value: 302
K_SEMICOLON	Value: 59
K_SLASH	Value: 47
K_SPACE	Value: 32
K_SYSREQ	Value: 317

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Name	Description
K_TAB	Value: 9
K_UNDERSCORE	Value: 95
K_UNKNOWN	Value: 0
K_UP	Value: 273
K_a	Value: 97
K_b	Value: 98
K_c	Value: 99
K_d	Value: 100
K_e	Value: 101
K_f	Value: 102
K_g	Value: 103
K_h	Value: 104
K_i	Value: 105
K_j	Value: 106
K_k	Value: 107
K_l	Value: 108
K_m	Value: 109
K_n	Value: 110
K_o	Value: 111
K_p	Value: 112
K_q	Value: 113
K_r	Value: 114
K_s	Value: 115
K_t	Value: 116
K_u	Value: 117
K_v	Value: 118
K_w	Value: 119
K_x	Value: 120
K_y	Value: 121
K_z	Value: 122
LIL_ENDIAN	Value: 1234
MOUSEBUTTONDOWN	Value: 5
MOUSEBUTTONUP	Value: 6
MOUSEMOTION	Value: 4
NOEVENT	Value: 0
NOFRAME	Value: 32
NUMEVENTS	Value: 32
OPENGL	Value: 2
OPENGLBLIT	Value: 10
PREALLOC	Value: 16777216
QUIT	Value: 12
RESIZABLE	Value: 16
RLEACCEL	Value: 16384
RLEACCELOK	Value: 8192
SCRAP_BMP	Value: 'image/bmp'
SCRAP_CLIPBOARD	Value: 0
SCRAP_PBM	Value: 'image/pbm'
SCRAP_PPM	Value: 'image/ppm'
SCRAP_SELECTION	Value: 1
SCRAP_TEXT	Value: 'text/plain'

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Name	Description
SRCALPHA	Value: 65536
SRCCOLORKEY	Value: 4096
SWSURFACE	Value: 0
SYSWMEVENT	Value: 13
TIMER_RESOLUTION	Value: 10
USEREVENT	Value: 24
UYVY_OVERLAY	Value: 1498831189
VIDEOEXPOSE	Value: 17
VIDEORESIZE	Value: 16
YUY2_OVERLAY	Value: 844715353
YV12_OVERLAY	Value: 842094169
YVYU_OVERLAY	Value: 1431918169
__package__	Value: 'pystroke'

5.2 Class EventEngine

Reads the event queue and passes events to other engines

Author: James Heslin (PROGRAM_IX)

5.2.1 Methods

__init__ (<i>self</i> , <i>i_e</i>) <hr/> Takes an InputEngine and passes all relevant events to it Parameters <i>i_e</i> : InputEngine to which input events should be passed (<i>type=InputEngine</i>) Author: James Heslin (PROGRAM_IX)
update (<i>self</i>) <hr/> Pulls all relevant events from the event queue and passes them to the appropriate engines Author: James Heslin (PROGRAM_IX)
reset_input (<i>self</i>) <hr/> Resets the InputEngine's values Author: James Heslin (PROGRAM_IX)
print_input_states (<i>self</i>) <hr/> Prints the states of the InputEngine Author: James Heslin (PROGRAM_IX)

6 Module `pystroke.game`

6.1 Functions

main()
Default running parameters for Game
Author: James Heslin (PROGRAM_IX)

6.2 Variables

Name	Description
<code>__package__</code>	Value: 'pystroke'

6.3 Class `Game`

Container and manager for `GameEngine` instances

Author: James Heslin (PROGRAM_IX)

6.3.1 Methods

__init__ (<i>self</i> , <i>width</i> , <i>height</i>)
Constructs a new <code>Game</code> , whose screen has the specified width and height
Parameters
width: Width of the screen (<i>type=int</i>)
height: Height of the screen (<i>type=int</i>)
Author: James Heslin (PROGRAM_IX)

start (<i>self</i>)
Set up the <code>GameEngine</code> and run the game
Author: James Heslin (PROGRAM_IX)

run (<i>self</i>)
Runs the <code>GameEngine</code> , switches to another <code>GameEngine</code> , or quits, based on returned flags from <code>GameEngine</code>
Author: James Heslin (PROGRAM_IX)

7 Module `pystroke.game_engine`

7.1 Variables

Name	Description
ACTIVEEVENT	Value: 1
ANYFORMAT	Value: 268435456
ASYNCBLIT	Value: 4
AUDIO_S16	Value: 32784
AUDIO_S16LSB	Value: 32784
AUDIO_S16MSB	Value: 36880
AUDIO_S16SYS	Value: 32784
AUDIO_S8	Value: 32776
AUDIO_U16	Value: 16
AUDIO_U16LSB	Value: 16
AUDIO_U16MSB	Value: 4112
AUDIO_U16SYS	Value: 16
AUDIO_U8	Value: 8
BIG_ENDIAN	Value: 4321
BLEND_ADD	Value: 1
BLEND_MAX	Value: 5
BLEND_MIN	Value: 4
BLEND_MULT	Value: 3
BLEND_RGBA_ADD	Value: 6
BLEND_RGBA_MAX	Value: 16
BLEND_RGBA_MIN	Value: 9
BLEND_RGBA_MULT	Value: 8
BLEND_RGBA_SUB	Value: 7
BLEND_RGB_ADD	Value: 1
BLEND_RGB_MAX	Value: 5
BLEND_RGB_MIN	Value: 4
BLEND_RGB_MULT	Value: 3
BLEND_RGB_SUB	Value: 2
BLEND_SUB	Value: 2
BUTTON_X1	Value: 6
BUTTON_X2	Value: 7
DOUBLEBUF	Value: 1073741824
FULLSCREEN	Value: -2147483648
GL_ACCELERATED_VISUAL	Value: 15
GL_ACCUM_ALPHA_SIZE	Value: 11
GL_ACCUM_BLUE_SIZE	Value: 10
GL_ACCUM_GREEN_SIZE	Value: 9
GL_ACCUM_RED_SIZE	Value: 8
GL_ALPHA_SIZE	Value: 3
GL_BLUE_SIZE	Value: 2
GL_BUFFER_SIZE	Value: 4
GL_DEPTH_SIZE	Value: 6
GL_DOUBLEBUFFER	Value: 5
GL_GREEN_SIZE	Value: 1

continued on next page

Name	Description
GL_MULTISAMPLEBUFFERS	Value: 13
GL_MULTISAMPLESAMPLES	Value: 14
GL_RED_SIZE	Value: 0
GL_STENCIL_SIZE	Value: 7
GL_STEREO	Value: 12
GL_SWAP_CONTROL	Value: 16
HAT_CENTERED	Value: 0
HAT_DOWN	Value: 4
HAT_LEFT	Value: 8
HAT_LEFTDOWN	Value: 12
HAT_LEFTUP	Value: 9
HAT_RIGHT	Value: 2
HAT_RIGHTDOWN	Value: 6
HAT_RIGHTUP	Value: 3
HAT_UP	Value: 1
HWACCEL	Value: 256
HWPALETTE	Value: 536870912
HWSURFACE	Value: 1
IYUV_OVERLAY	Value: 1448433993
JOYAXISMOTION	Value: 7
JOYBALLMOTION	Value: 8
JOYBUTTONDOWN	Value: 10
JOYBUTTONUP	Value: 11
JOYHATMOTION	Value: 9
KEYDOWN	Value: 2
KEYUP	Value: 3
KMOD_ALT	Value: 768
KMOD_CAPS	Value: 8192
KMOD_CTRL	Value: 192
KMOD_LALT	Value: 256
KMOD_LCTRL	Value: 64
KMOD_LMETA	Value: 1024
KMOD_LSHIFT	Value: 1
KMOD_META	Value: 3072
KMOD_MODE	Value: 16384
KMOD_NONE	Value: 0
KMOD_NUM	Value: 4096
KMOD_RALT	Value: 512
KMOD_RCTRL	Value: 128
KMOD_RMETA	Value: 2048
KMOD_RSHIFT	Value: 2
KMOD_SHIFT	Value: 3
K_0	Value: 48
K_1	Value: 49
K_2	Value: 50
K_3	Value: 51
K_4	Value: 52
K_5	Value: 53

continued on next page

Name	Description
K_6	Value: 54
K_7	Value: 55
K_8	Value: 56
K_9	Value: 57
K_AMPERSAND	Value: 38
K_ASTERISK	Value: 42
K_AT	Value: 64
K_BACKQUOTE	Value: 96
K_BACKSLASH	Value: 92
K_BACKSPACE	Value: 8
K_BREAK	Value: 318
K_CAPSLOCK	Value: 301
K_CARET	Value: 94
K_CLEAR	Value: 12
K_COLON	Value: 58
K_COMMA	Value: 44
K_DELETE	Value: 127
K_DOLLAR	Value: 36
K_DOWN	Value: 274
K_END	Value: 279
K_EQUALS	Value: 61
K_ESCAPE	Value: 27
K_EURO	Value: 321
K_EXCLAIM	Value: 33
K_F1	Value: 282
K_F10	Value: 291
K_F11	Value: 292
K_F12	Value: 293
K_F13	Value: 294
K_F14	Value: 295
K_F15	Value: 296
K_F2	Value: 283
K_F3	Value: 284
K_F4	Value: 285
K_F5	Value: 286
K_F6	Value: 287
K_F7	Value: 288
K_F8	Value: 289
K_F9	Value: 290
K_FIRST	Value: 0
K_GREATER	Value: 62
K_HASH	Value: 35
K_HELP	Value: 315
K_HOME	Value: 278
K_INSERT	Value: 277
K_KP0	Value: 256
K_KP1	Value: 257
K_KP2	Value: 258
K_KP3	Value: 259
K_KP4	Value: 260

continued on next page

Name	Description
K_KP5	Value: 261
K_KP6	Value: 262
K_KP7	Value: 263
K_KP8	Value: 264
K_KP9	Value: 265
K_KP_DIVIDE	Value: 267
K_KP_ENTER	Value: 271
K_KP_EQUALS	Value: 272
K_KP_MINUS	Value: 269
K_KP_MULTIPLY	Value: 268
K_KP_PERIOD	Value: 266
K_KP_PLUS	Value: 270
K_LALT	Value: 308
K_LAST	Value: 323
K_LCTRL	Value: 306
K_LEFT	Value: 276
K_LEFTBRACKET	Value: 91
K_LEFTPAREN	Value: 40
K_LESS	Value: 60
K_LMETA	Value: 310
K_LSHIFT	Value: 304
K_LSUPER	Value: 311
K_MENU	Value: 319
K_MINUS	Value: 45
K_MODE	Value: 313
K_NUMLOCK	Value: 300
K_PAGEDOWN	Value: 281
K_PAGEUP	Value: 280
K_PAUSE	Value: 19
K_PERIOD	Value: 46
K_PLUS	Value: 43
K_POWER	Value: 320
K_PRINT	Value: 316
K_QUESTION	Value: 63
K_QUOTE	Value: 39
K_QUOTEDBL	Value: 34
K_RALT	Value: 307
K_RCTRL	Value: 305
K_RETURN	Value: 13
K_RIGHT	Value: 275
K_RIGHTBRACKET	Value: 93
K_RIGHTPAREN	Value: 41
K_RMETA	Value: 309
K_RSHIFT	Value: 303
K_RSUPER	Value: 312
K_SCROLLOCK	Value: 302
K_SEMICOLON	Value: 59
K_SLASH	Value: 47
K_SPACE	Value: 32
K_SYSREQ	Value: 317

continued on next page

Name	Description
K_TAB	Value: 9
K_UNDERSCORE	Value: 95
K_UNKNOWN	Value: 0
K_UP	Value: 273
K_a	Value: 97
K_b	Value: 98
K_c	Value: 99
K_d	Value: 100
K_e	Value: 101
K_f	Value: 102
K_g	Value: 103
K_h	Value: 104
K_i	Value: 105
K_j	Value: 106
K_k	Value: 107
K_l	Value: 108
K_m	Value: 109
K_n	Value: 110
K_o	Value: 111
K_p	Value: 112
K_q	Value: 113
K_r	Value: 114
K_s	Value: 115
K_t	Value: 116
K_u	Value: 117
K_v	Value: 118
K_w	Value: 119
K_x	Value: 120
K_y	Value: 121
K_z	Value: 122
LIL_ENDIAN	Value: 1234
MOUSEBUTTONDOWN	Value: 5
MOUSEBUTTONUP	Value: 6
MOUSEMOTION	Value: 4
NOEVENT	Value: 0
NOFRAME	Value: 32
NUMEVENTS	Value: 32
OPENGL	Value: 2
OPENGLBLIT	Value: 10
PREALLOC	Value: 16777216
QUIT	Value: 12
RESIZABLE	Value: 16
RLEACCEL	Value: 16384
RLEACCELOK	Value: 8192
SCRAP_BMP	Value: 'image/bmp'
SCRAP_CLIPBOARD	Value: 0
SCRAP_PBM	Value: 'image/pbm'
SCRAP_PPM	Value: 'image/ppm'
SCRAP_SELECTION	Value: 1
SCRAP_TEXT	Value: 'text/plain'

continued on next page

Name	Description
SRCALPHA	Value: 65536
SRCCOLORKEY	Value: 4096
SWSURFACE	Value: 0
SYSWMEVENT	Value: 13
TIMER_RESOLUTION	Value: 10
USEREVENT	Value: 24
UYVY_OVERLAY	Value: 1498831189
VIDEOEXPOSE	Value: 17
VIDEORESIZE	Value: 16
YUY2_OVERLAY	Value: 844715353
YV12_OVERLAY	Value: 842094169
YVYU_OVERLAY	Value: 1431918169
__package__	Value: 'pystroke'

7.2 Class GameEngine

Generic class to contain all logic for the basic running of the game

Author: James Heslin (PROGRAM_IX)

7.2.1 Methods

__init__ (<i>self</i> , <i>screen</i> , <i>event_e</i> =EventEngine(InputEngine()), <i>fps</i> =60)
Constructs a GameEngine
Parameters
screen: The screen on which the game will be rendered - this will be passed around to other classes (<i>type</i> =pygame.Surface)
event_e: The EventEngine that this will use to read events (<i>type</i> =EventEngine)
fps: The number of frames to display/ticks to pass every second (<i>type</i> =int)
Author: James Heslin (PROGRAM_IX)

update (<i>self</i>)
Performs per-frame logic
Return Value
Flag to tell Game what to do (<i>type</i> =int)
Author: James Heslin (PROGRAM_IX)

draw(*self*)

Draws all necessary elements using the DrawEngine

Author: James Heslin (PROGRAM_IX)

run(*self*)

The main loop of the game

Return Value

Flag to tell Game what to do

(*type=int*)

Author: James Heslin (PROGRAM_IX)

get_key(*self, key*)

Wraps the checking of key input

Return Value

The state of the key

(*type=boolean*)

8 Module `pystroke.hud`

8.1 Variables

Name	Description
ACTIVEEVENT	Value: 1
ANYFORMAT	Value: 268435456
ASYNCBLIT	Value: 4
AUDIO_S16	Value: 32784
AUDIO_S16LSB	Value: 32784
AUDIO_S16MSB	Value: 36880
AUDIO_S16SYS	Value: 32784
AUDIO_S8	Value: 32776
AUDIO_U16	Value: 16
AUDIO_U16LSB	Value: 16
AUDIO_U16MSB	Value: 4112
AUDIO_U16SYS	Value: 16
AUDIO_U8	Value: 8
BIG_ENDIAN	Value: 4321
BLEND_ADD	Value: 1
BLEND_MAX	Value: 5
BLEND_MIN	Value: 4
BLEND_MULT	Value: 3
BLEND_RGBA_ADD	Value: 6
BLEND_RGBA_MAX	Value: 16
BLEND_RGBA_MIN	Value: 9
BLEND_RGBA_MULT	Value: 8
BLEND_RGBA_SUB	Value: 7
BLEND_RGB_ADD	Value: 1
BLEND_RGB_MAX	Value: 5
BLEND_RGB_MIN	Value: 4
BLEND_RGB_MULT	Value: 3
BLEND_RGB_SUB	Value: 2
BLEND_SUB	Value: 2
BUTTON_X1	Value: 6
BUTTON_X2	Value: 7
DOUBLEBUF	Value: 1073741824
FULLSCREEN	Value: -2147483648
GL_ACCELERATED_VISUAL	Value: 15
GL_ACCUM_ALPHA_SIZE	Value: 11
GL_ACCUM_BLUE_SIZE	Value: 10
GL_ACCUM_GREEN_SIZE	Value: 9
GL_ACCUM_RED_SIZE	Value: 8
GL_ALPHA_SIZE	Value: 3
GL_BLUE_SIZE	Value: 2
GL_BUFFER_SIZE	Value: 4
GL_DEPTH_SIZE	Value: 6
GL_DOUBLEBUFFER	Value: 5
GL_GREEN_SIZE	Value: 1

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Name	Description
GL_MULTISAMPLEBUFFERS	Value: 13
GL_MULTISAMPLESAMPLES	Value: 14
GL_RED_SIZE	Value: 0
GL_STENCIL_SIZE	Value: 7
GL_STEREO	Value: 12
GL_SWAP_CONTROL	Value: 16
HAT_CENTERED	Value: 0
HAT_DOWN	Value: 4
HAT_LEFT	Value: 8
HAT_LEFTDOWN	Value: 12
HAT_LEFTUP	Value: 9
HAT_RIGHT	Value: 2
HAT_RIGHTDOWN	Value: 6
HAT_RIGHTUP	Value: 3
HAT_UP	Value: 1
HWACCEL	Value: 256
HWPALETTE	Value: 536870912
HWSURFACE	Value: 1
IYUV_OVERLAY	Value: 1448433993
JOYAXISMOTION	Value: 7
JOYBALLMOTION	Value: 8
JOYBUTTONDOWN	Value: 10
JOYBUTTONUP	Value: 11
JOYHATMOTION	Value: 9
KEYDOWN	Value: 2
KEYUP	Value: 3
KMOD_ALT	Value: 768
KMOD_CAPS	Value: 8192
KMOD_CTRL	Value: 192
KMOD_LALT	Value: 256
KMOD_LCTRL	Value: 64
KMOD_LMETA	Value: 1024
KMOD_LSHIFT	Value: 1
KMOD_META	Value: 3072
KMOD_MODE	Value: 16384
KMOD_NONE	Value: 0
KMOD_NUM	Value: 4096
KMOD_RALT	Value: 512
KMOD_RCTRL	Value: 128
KMOD_RMETA	Value: 2048
KMOD_RSHIFT	Value: 2
KMOD_SHIFT	Value: 3
K_0	Value: 48
K_1	Value: 49
K_2	Value: 50
K_3	Value: 51
K_4	Value: 52
K_5	Value: 53

continued on next page

Name	Description
K_6	Value: 54
K_7	Value: 55
K_8	Value: 56
K_9	Value: 57
K_AMPERSAND	Value: 38
K_ASTERISK	Value: 42
K_AT	Value: 64
K_BACKQUOTE	Value: 96
K_BACKSLASH	Value: 92
K_BACKSPACE	Value: 8
K_BREAK	Value: 318
K_CAPSLOCK	Value: 301
K_CARET	Value: 94
K_CLEAR	Value: 12
K_COLON	Value: 58
K_COMMA	Value: 44
K_DELETE	Value: 127
K_DOLLAR	Value: 36
K_DOWN	Value: 274
K_END	Value: 279
K_EQUALS	Value: 61
K_ESCAPE	Value: 27
K_EURO	Value: 321
K_EXCLAIM	Value: 33
K_F1	Value: 282
K_F10	Value: 291
K_F11	Value: 292
K_F12	Value: 293
K_F13	Value: 294
K_F14	Value: 295
K_F15	Value: 296
K_F2	Value: 283
K_F3	Value: 284
K_F4	Value: 285
K_F5	Value: 286
K_F6	Value: 287
K_F7	Value: 288
K_F8	Value: 289
K_F9	Value: 290
K_FIRST	Value: 0
K_GREATER	Value: 62
K_HASH	Value: 35
K_HELP	Value: 315
K_HOME	Value: 278
K_INSERT	Value: 277
K_KP0	Value: 256
K_KP1	Value: 257
K_KP2	Value: 258
K_KP3	Value: 259
K_KP4	Value: 260

continued on next page

Name	Description
K_KP5	Value: 261
K_KP6	Value: 262
K_KP7	Value: 263
K_KP8	Value: 264
K_KP9	Value: 265
K_KP_DIVIDE	Value: 267
K_KP_ENTER	Value: 271
K_KP_EQUALS	Value: 272
K_KP_MINUS	Value: 269
K_KP_MULTIPLY	Value: 268
K_KP_PERIOD	Value: 266
K_KP_PLUS	Value: 270
K_LALT	Value: 308
K_LAST	Value: 323
K_LCTRL	Value: 306
K_LEFT	Value: 276
K_LEFTBRACKET	Value: 91
K_LEFTPAREN	Value: 40
K_LESS	Value: 60
K_LMETA	Value: 310
K_LSHIFT	Value: 304
K_LSUPER	Value: 311
K_MENU	Value: 319
K_MINUS	Value: 45
K_MODE	Value: 313
K_NUMLOCK	Value: 300
K_PAGEDOWN	Value: 281
K_PAGEUP	Value: 280
K_PAUSE	Value: 19
K_PERIOD	Value: 46
K_PLUS	Value: 43
K_POWER	Value: 320
K_PRINT	Value: 316
K_QUESTION	Value: 63
K_QUOTE	Value: 39
K_QUOTEDBL	Value: 34
K_RALT	Value: 307
K_RCTRL	Value: 305
K_RETURN	Value: 13
K_RIGHT	Value: 275
K_RIGHTBRACKET	Value: 93
K_RIGHTPAREN	Value: 41
K_RMETA	Value: 309
K_RSHIFT	Value: 303
K_RSUPER	Value: 312
K_SCROLLOCK	Value: 302
K_SEMICOLON	Value: 59
K_SLASH	Value: 47
K_SPACE	Value: 32
K_SYSREQ	Value: 317

continued on next page

Name	Description
K_TAB	Value: 9
K_UNDERSCORE	Value: 95
K_UNKNOWN	Value: 0
K_UP	Value: 273
K_a	Value: 97
K_b	Value: 98
K_c	Value: 99
K_d	Value: 100
K_e	Value: 101
K_f	Value: 102
K_g	Value: 103
K_h	Value: 104
K_i	Value: 105
K_j	Value: 106
K_k	Value: 107
K_l	Value: 108
K_m	Value: 109
K_n	Value: 110
K_o	Value: 111
K_p	Value: 112
K_q	Value: 113
K_r	Value: 114
K_s	Value: 115
K_t	Value: 116
K_u	Value: 117
K_v	Value: 118
K_w	Value: 119
K_x	Value: 120
K_y	Value: 121
K_z	Value: 122
LIL_ENDIAN	Value: 1234
MOUSEBUTTONDOWN	Value: 5
MOUSEBUTTONUP	Value: 6
MOUSEMOTION	Value: 4
NOEVENT	Value: 0
NOFRAME	Value: 32
NUMEVENTS	Value: 32
OPENGL	Value: 2
OPENGLBLIT	Value: 10
PREALLOC	Value: 16777216
QUIT	Value: 12
RESIZABLE	Value: 16
RLEACCEL	Value: 16384
RLEACCELOK	Value: 8192
SCRAP_BMP	Value: 'image/bmp'
SCRAP_CLIPBOARD	Value: 0
SCRAP_PBM	Value: 'image/pbm'
SCRAP_PPM	Value: 'image/ppm'
SCRAP_SELECTION	Value: 1
SCRAP_TEXT	Value: 'text/plain'

continued on next page

Name	Description
SRCALPHA	Value: 65536
SRCCOLORKEY	Value: 4096
SWSURFACE	Value: 0
SYSWMEVENT	Value: 13
TIMER_RESOLUTION	Value: 10
USEREVENT	Value: 24
UYVY_OVERLAY	Value: 1498831189
VIDEOEXPOSE	Value: 17
VIDEORESIZE	Value: 16
YUY2_OVERLAY	Value: 844715353
YV12_OVERLAY	Value: 842094169
YVYU_OVERLAY	Value: 1431918169
__package__	Value: 'pystroke'

8.2 Class HUDElement

Known Subclasses: pystroke.hud.HUDLine, pystroke.hud.HUDPolygon, pystroke.hud.HUDText

Generic part of a heads-up display

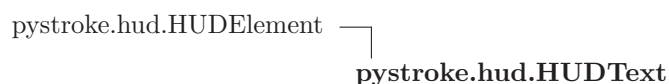
Author: James Heslin (PROGRAM_IX)

8.2.1 Methods

init__ (<i>self</i> , <i>label</i> , <i>colour</i> , <i>visible</i> =True)
Constructs a new HUDElement
Parameters
<i>label</i> : Identifier of the element (<i>type</i> =string)
<i>colour</i> : Colour of the element (<i>type</i> =pygame.Colour)
<i>visible</i> : Whether the element is visible (<i>type</i> =boolean)
Author: James Heslin (PROGRAM_IX)

draw (<i>self</i> , <i>screen</i>)
Draw the element to the screen
Parameters
<i>screen</i> : The surface onto which the game will be rendered (<i>type</i> =pygame.Surface)
Author: James Heslin (PROGRAM_IX)

8.3 Class HUDText



An element of a heads-up display consisting of text

Author: James Heslin (PROGRAM_IX)

8.3.1 Methods

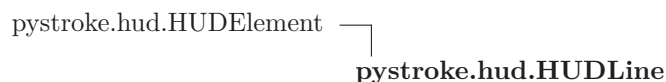
__init__ (<i>self, label, colour, text, pos, size, width, visible=True</i>)
Constructs a new HUDElement
Parameters
label: Identifier of the text (<i>type=string</i>)
colour: Colour of the text (<i>type=pygame.Color</i>)
text: Text to display (<i>type=string</i>)
pos: Coordinates of text start point (<i>type=list/tuple containing two ints</i>)
visible: Whether the text is visible (<i>type=boolean</i>)
Overrides: pystroke.hud.HUDElement.__init__
Author: James Heslin (PROGRAM_IX)

draw (<i>self, screen</i>)
Render the text to the screen
Parameters
screen: The screen onto which the text should be rendered (<i>type=pygame.Surface</i>)
Overrides: pystroke.hud.HUDElement.draw
Author: James Heslin (PROGRAM_IX)

8.3.2 Class Variables

Name	Description
letters	Value: {'0': ((5, 15), (-5, -10), (-5, 15), (5, 15), (5, -10), (...)

8.4 Class HUDLine



An element of a heads-up display consisting of a line

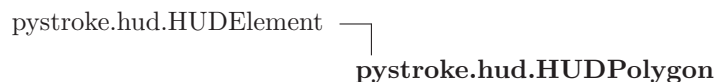
Author: James Heslin (PROGRAM_IX)

8.4.1 Methods

<code>__init__</code> (<i>self</i> , <i>label</i> , <i>colour</i> , <i>line</i> , <i>visible=True</i>)
Constructs a new HUDLine
Parameters
label: Identifier of the line (<i>type=string</i>)
colour: Colour of the line (<i>type=pygame.Color</i>)
line: Line arguments (<i>type=list/tuple containing start position tuple (int, int), end position tuple (int, int), and width (int)</i>)
visible: Whether the line is visible (<i>type=boolean</i>)
Overrides: <code>pystroke.hud.HUDElement.__init__</code>
Author: James Heslin (PROGRAM_IX)

<code>draw</code> (<i>self</i> , <i>screen</i>)
Render the line to the screen
Parameters
screen: The screen onto which the line should be rendered (<i>type=pygame.Surface</i>)
Overrides: <code>pystroke.hud.HUDElement.draw</code>
Author: James Heslin (PROGRAM_IX)

8.5 Class HUDPolygon



An element of a heads-up display consisting of a polygon

Author: James Heslin (PROGRAM_IX)

8.5.1 Methods

__init__ (<i>self</i> , <i>label</i> , <i>colour</i> , <i>lines</i> , <i>visible</i> =True)
Constructs a new HUDElement
Parameters
label : Identifier of the polygon (<i>type</i> =string)
colour : Colour of the polygon (<i>type</i> =pygame.Colour)
lines : Lines portion of the element (<i>type</i> =list/tuple containing a tuple of points (each (int, int)) and an int)
visible : Whether the element is visible (<i>type</i> =boolean)
Overrides: pystroke.hud.HUDElement.__init__
Author : James Heslin (PROGRAM_IX)

draw (<i>self</i> , <i>screen</i>)
Render the polygon to the screen
Parameters
screen : The screen onto which the polygon is to be rendered (<i>type</i> =pygame.Surface)
Overrides: pystroke.hud.HUDElement.draw
Author : James Heslin (PROGRAM_IX)

8.6 Class HUD

A heads-up display, which comprises various visual elements displayed on a screen to give information to a player

Author: James Heslin (PROGRAM_IX)

8.6.1 Methods

__init__ (<i>self</i>)
Constructs a new HUD
Author : James Heslin (PROGRAM_IX)

add(*self*, *hud_el*)

Add a new element to the HUD

Author: James Heslin (PROGRAM_IX)

remove(*self*, *hud_el*)

Remove an element from the HUD

Author: James Heslin (PROGRAM_IX)

draw(*self*, *screen*)

Renders all elements of the HUD to the screen

Parameters

screen: The screen onto which the HUD is to be rendered
(*type=pygame.Surface*)

Author: James Heslin (PROGRAM_IX)

get(*self*, *label*)

Returns a HUDElement with matching label from elements, otherwise returns None

Parameters

label: The label of the HUDElement to retrieve
(*type=string*)

Return Value

The HUDElement with the specified label
(*type=HUDElement or None*)

Author: James Heslin (PROGRAM_IX)

9 Module `pystroke.input_engine`

9.1 Variables

Name	Description
ACTIVEEVENT	Value: 1
ANYFORMAT	Value: 268435456
ASYNCBLIT	Value: 4
AUDIO_S16	Value: 32784
AUDIO_S16LSB	Value: 32784
AUDIO_S16MSB	Value: 36880
AUDIO_S16SYS	Value: 32784
AUDIO_S8	Value: 32776
AUDIO_U16	Value: 16
AUDIO_U16LSB	Value: 16
AUDIO_U16MSB	Value: 4112
AUDIO_U16SYS	Value: 16
AUDIO_U8	Value: 8
BIG_ENDIAN	Value: 4321
BLEND_ADD	Value: 1
BLEND_MAX	Value: 5
BLEND_MIN	Value: 4
BLEND_MULT	Value: 3
BLEND_RGBA_ADD	Value: 6
BLEND_RGBA_MAX	Value: 16
BLEND_RGBA_MIN	Value: 9
BLEND_RGBA_MULT	Value: 8
BLEND_RGBA_SUB	Value: 7
BLEND_RGB_ADD	Value: 1
BLEND_RGB_MAX	Value: 5
BLEND_RGB_MIN	Value: 4
BLEND_RGB_MULT	Value: 3
BLEND_RGB_SUB	Value: 2
BLEND_SUB	Value: 2
BUTTON_X1	Value: 6
BUTTON_X2	Value: 7
DOUBLEBUF	Value: 1073741824
FULLSCREEN	Value: -2147483648
GL_ACCELERATED_VISUAL	Value: 15
GL_ACCUM_ALPHA_SIZE	Value: 11
GL_ACCUM_BLUE_SIZE	Value: 10
GL_ACCUM_GREEN_SIZE	Value: 9
GL_ACCUM_RED_SIZE	Value: 8
GL_ALPHA_SIZE	Value: 3
GL_BLUE_SIZE	Value: 2
GL_BUFFER_SIZE	Value: 4
GL_DEPTH_SIZE	Value: 6
GL_DOUBLEBUFFER	Value: 5
GL_GREEN_SIZE	Value: 1

continued on next page

Name	Description
GL_MULTISAMPLEBUFFERS	Value: 13
GL_MULTISAMPLESAMPLES	Value: 14
GL_RED_SIZE	Value: 0
GL_STENCIL_SIZE	Value: 7
GL_STEREO	Value: 12
GL_SWAP_CONTROL	Value: 16
HAT_CENTERED	Value: 0
HAT_DOWN	Value: 4
HAT_LEFT	Value: 8
HAT_LEFTDOWN	Value: 12
HAT_LEFTUP	Value: 9
HAT_RIGHT	Value: 2
HAT_RIGHTDOWN	Value: 6
HAT_RIGHTUP	Value: 3
HAT_UP	Value: 1
HWACCEL	Value: 256
HWPALETTE	Value: 536870912
HWSURFACE	Value: 1
IYUV_OVERLAY	Value: 1448433993
JOYAXISMOTION	Value: 7
JOYBALLMOTION	Value: 8
JOYBUTTONDOWN	Value: 10
JOYBUTTONUP	Value: 11
JOYHATMOTION	Value: 9
KEYDOWN	Value: 2
KEYUP	Value: 3
KMOD_ALT	Value: 768
KMOD_CAPS	Value: 8192
KMOD_CTRL	Value: 192
KMOD_LALT	Value: 256
KMOD_LCTRL	Value: 64
KMOD_LMETA	Value: 1024
KMOD_LSHIFT	Value: 1
KMOD_META	Value: 3072
KMOD_MODE	Value: 16384
KMOD_NONE	Value: 0
KMOD_NUM	Value: 4096
KMOD_RALT	Value: 512
KMOD_RCTRL	Value: 128
KMOD_RMETA	Value: 2048
KMOD_RSHIFT	Value: 2
KMOD_SHIFT	Value: 3
K_0	Value: 48
K_1	Value: 49
K_2	Value: 50
K_3	Value: 51
K_4	Value: 52
K_5	Value: 53

continued on next page

Name	Description
K_6	Value: 54
K_7	Value: 55
K_8	Value: 56
K_9	Value: 57
K_AMPERSAND	Value: 38
K_ASTERISK	Value: 42
K_AT	Value: 64
K_BACKQUOTE	Value: 96
K_BACKSLASH	Value: 92
K_BACKSPACE	Value: 8
K_BREAK	Value: 318
K_CAPSLOCK	Value: 301
K_CARET	Value: 94
K_CLEAR	Value: 12
K_COLON	Value: 58
K_COMMA	Value: 44
K_DELETE	Value: 127
K_DOLLAR	Value: 36
K_DOWN	Value: 274
K_END	Value: 279
K_EQUALS	Value: 61
K_ESCAPE	Value: 27
K_EURO	Value: 321
K_EXCLAIM	Value: 33
K_F1	Value: 282
K_F10	Value: 291
K_F11	Value: 292
K_F12	Value: 293
K_F13	Value: 294
K_F14	Value: 295
K_F15	Value: 296
K_F2	Value: 283
K_F3	Value: 284
K_F4	Value: 285
K_F5	Value: 286
K_F6	Value: 287
K_F7	Value: 288
K_F8	Value: 289
K_F9	Value: 290
K_FIRST	Value: 0
K_GREATER	Value: 62
K_HASH	Value: 35
K_HELP	Value: 315
K_HOME	Value: 278
K_INSERT	Value: 277
K_KP0	Value: 256
K_KP1	Value: 257
K_KP2	Value: 258
K_KP3	Value: 259
K_KP4	Value: 260

continued on next page

Name	Description
K_KP5	Value: 261
K_KP6	Value: 262
K_KP7	Value: 263
K_KP8	Value: 264
K_KP9	Value: 265
K_KP_DIVIDE	Value: 267
K_KP_ENTER	Value: 271
K_KP_EQUALS	Value: 272
K_KP_MINUS	Value: 269
K_KP_MULTIPLY	Value: 268
K_KP_PERIOD	Value: 266
K_KP_PLUS	Value: 270
K_LALT	Value: 308
K_LAST	Value: 323
K_LCTRL	Value: 306
K_LEFT	Value: 276
K_LEFTBRACKET	Value: 91
K_LEFTPAREN	Value: 40
K_LESS	Value: 60
K_LMETA	Value: 310
K_LSHIFT	Value: 304
K_LSUPER	Value: 311
K_MENU	Value: 319
K_MINUS	Value: 45
K_MODE	Value: 313
K_NUMLOCK	Value: 300
K_PAGEDOWN	Value: 281
K_PAGEUP	Value: 280
K_PAUSE	Value: 19
K_PERIOD	Value: 46
K_PLUS	Value: 43
K_POWER	Value: 320
K_PRINT	Value: 316
K_QUESTION	Value: 63
K_QUOTE	Value: 39
K_QUOTEDBL	Value: 34
K_RALT	Value: 307
K_RCTRL	Value: 305
K_RETURN	Value: 13
K_RIGHT	Value: 275
K_RIGHTBRACKET	Value: 93
K_RIGHTPAREN	Value: 41
K_RMETA	Value: 309
K_RSHIFT	Value: 303
K_RSUPER	Value: 312
K_SCROLLOCK	Value: 302
K_SEMICOLON	Value: 59
K_SLASH	Value: 47
K_SPACE	Value: 32
K_SYSREQ	Value: 317

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Name	Description
K_TAB	Value: 9
K_UNDERSCORE	Value: 95
K_UNKNOWN	Value: 0
K_UP	Value: 273
K_a	Value: 97
K_b	Value: 98
K_c	Value: 99
K_d	Value: 100
K_e	Value: 101
K_f	Value: 102
K_g	Value: 103
K_h	Value: 104
K_i	Value: 105
K_j	Value: 106
K_k	Value: 107
K_l	Value: 108
K_m	Value: 109
K_n	Value: 110
K_o	Value: 111
K_p	Value: 112
K_q	Value: 113
K_r	Value: 114
K_s	Value: 115
K_t	Value: 116
K_u	Value: 117
K_v	Value: 118
K_w	Value: 119
K_x	Value: 120
K_y	Value: 121
K_z	Value: 122
LIL_ENDIAN	Value: 1234
MOUSEBUTTONDOWN	Value: 5
MOUSEBUTTONUP	Value: 6
MOUSEMOTION	Value: 4
NOEVENT	Value: 0
NOFRAME	Value: 32
NUMEVENTS	Value: 32
OPENGL	Value: 2
OPENGLBLIT	Value: 10
PREALLOC	Value: 16777216
QUIT	Value: 12
RESIZABLE	Value: 16
RLEACCEL	Value: 16384
RLEACCELOK	Value: 8192
SCRAP_BMP	Value: 'image/bmp'
SCRAP_CLIPBOARD	Value: 0
SCRAP_PBM	Value: 'image/pbm'
SCRAP_PPM	Value: 'image/ppm'
SCRAP_SELECTION	Value: 1
SCRAP_TEXT	Value: 'text/plain'

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Name	Description
SRCALPHA	Value: 65536
SRCCOLORKEY	Value: 4096
SWSURFACE	Value: 0
SYSWMEVENT	Value: 13
TIMER_RESOLUTION	Value: 10
USEREVENT	Value: 24
UYVY_OVERLAY	Value: 1498831189
VIDEOEXPOSE	Value: 17
VIDEORESIZE	Value: 16
YUY2_OVERLAY	Value: 844715353
YV12_OVERLAY	Value: 842094169
YVYU_OVERLAY	Value: 1431918169
__package__	Value: 'pystroke'

9.2 Class InputEngine

Receives input events from an EventEngine and uses them to maintain an up- to-date keyboard/mouse state

Author: James Heslin (PROGRAM_IX)

9.2.1 Methods

__init__ (<i>self</i>)
Constructs a new InputEngine
Author: James Heslin (PROGRAM_IX)

mouse_motion (<i>self, event</i>)
Processes MOUSEMOTION events
Parameters
event: A MOUSEMOTION event
(<i>type=pygame.Event</i>)
Author: James Heslin (PROGRAM_IX)

mouse_b_down (<i>self, event</i>)
Processes MOUSEBUTTONDOWN events
Parameters
event: A MOUSEBUTTONDOWN event
(<i>type=pygame.Event</i>)
Author: James Heslin (PROGRAM_IX)

mouse_b_up(*self*, *event*)

Processes MOUSEBUTTONUP events

Parameters

event: A MOUSEBUTTONUP event
(*type=pygame.Event*)

Author: James Heslin (PROGRAM_IX)**key_down**(*self*, *event*)

Processes KEYDOWN events

Parameters

event: A KEYDOWN event
(*type=pygame.Event*)

Author: James Heslin (PROGRAM_IX)**key_up**(*self*, *event*)

Processes KEYUP events

Parameters

event: A KEYUP event
(*type=pygame.Event*)

Author: James Heslin (PROGRAM_IX)**reset**(*self*)

Reset all the input values

Author: James Heslin (PROGRAM_IX)**print_all_states**(*self*)

Print the states of all tracked inputs

Author: James Heslin (PROGRAM_IX)

10 Module *pystroke.locals*

10.1 Variables

Name	Description
SWITCH_FLAG	Value: 0
QUIT_FLAG	Value: 1
CONTINUE_FLAG	Value: 2
__package__	Value: None

11 Module pystroke.vector2

11.1 Variables

Name	Description
<code>__package__</code>	Value: 'pystroke'

11.2 Class Vector2

A two-dimensional vector

Author: James Heslin (PROGRAM_IX)

11.2.1 Methods

<code>__init__(self, x=0.0, y=0.0)</code>
Constructs a new Vector2
Parameters
x: X (horizontal) co-ordinate of vector (<i>type=double</i>)
y: Y (vertical) co-ordinate of vector (<i>type=double</i>)
Author: James Heslin (PROGRAM_IX)

<code>__str__(self)</code>
Returns a string with the vector's co-ordinates
Return Value
A string containing the vector's co-ordinates (<i>type=string</i>)
Author: James Heslin (PROGRAM_IX)

from_points(*a*, *b*)

Returns a new Vector2 with the co-ordinates of the difference between the two points**Parameters**

a: The first point to use in constructing the new Vector2

(*type=tuple/list of two ints*)

b: The second point to use in constructing the new Vector2

(*type=tuple/list of two ints*)

Return Value

A new Vector2 constructed from the inputted points

(*type=Vector2*)

Author: James Heslin (PROGRAM_IX)

get_magnitude(*self*)

Returns the magnitude of the vector**Return Value**

The magnitude of the vector

(*type=double*)

Author: James Heslin (PROGRAM_IX)

normalised(*self*)

Returns a normalised copy of the vector**Return Value**

Normalised copy of the vector

(*type=Vector2*)

Author: James Heslin (PROGRAM_IX)

dot_product(*self*, *other*)

Returns the dot product of the vector and the input vector**Parameters**

other: The vector to dot product against

(*type=Vector2*)

Return Value

The dot product of the vector and the input vector

(*type=double*)

Author: James Heslin (PROGRAM_IX)

cross_product(*self*, *other*)

Returns the cross product of the vector and the input vector

Parameters

other: The vector to cross product against
(*type=Vector2*)

Return Value

The cross product of the vector and the input vector
(*type=double*)

Author: James Heslin (PROGRAM_IX)

clamp(*x*, *a*, *b*)

'Clamp' the value of x between a and b, i.e., return x if it is between a and b, a if x is lower than a, and b if x is larger than b

Parameters

x: The number to clamp
(*type=double*)

a: The lower bound of x's clamp
(*type=double*)

b: The upper bound of x's clamp
(*type=double*)

Return Value

The clamped value of x
(*type=double*)

Author: James Heslin (PROGRAM_IX)

radians_between(*self*, *other*)

Return the radians between the vector and the input vector

Parameters

other: The other vector making the angle
(*type=Vector2*)

Return Value

The number of radians between the vector and the input vector

TODO: Determine if this actually works, it's not being used
(*type=double*)

Author: James Heslin (PROGRAM_IX)

get_angle(*self*)

Returns the angle this vector is pointing to**Return Value**

The angle this vector points to (in radians)

*(type=double)***Author:** James Heslin (PROGRAM_IX)

__add__(*self*, *other*)

Add the vector to other and return the result**Parameters****other:** The vector to add*(type=Vector2)***Return Value**

The result of the vector being added to other

*(type=Vector2)***Author:** James Heslin (PROGRAM_IX)

__sub__(*self*, *other*)

Subtract other from the vector and return the result**Parameters****other:** The vector to subtract*(type=Vector2)***Return Value**

The result of other being subtracted from the vector

*(type=Vector2)***Author:** James Heslin (PROGRAM_IX)

__neg__(*self*)

Negate the vector and return the result**Return Value**

The negated vector

*(type=Vector2)***Author:** James Heslin (PROGRAM_IX)

__mul__(*self*, *sca*)

Multiply the vector by other and return the result**Parameters**

sca: The scalar to multiply by
(*type=double*)

Return Value

The result of the vector being multiplied by sca
(*type=Vector2*)

Author: James Heslin (PROGRAM_IX)

__div__(*self*, *sca*)

Divide the vector by sca and return the result**Parameters**

sca: The scalar to divide by
(*type=double*)

Return Value

The result of the vector being divided by sca
(*type=Vector2*)

Author: James Heslin (PROGRAM_IX)

12 Module *pystroke.vector2_test*

12.1 Variables

Name	Description
<code>__package__</code>	Value: <code>'pystroke'</code>

12.2 Class *TestVector2*



12.2.1 Methods

setUp(*self*)

Hook method for setting up the test fixture before exercising it.

Overrides: `unittest.case.TestCase.setUp` `exitit`(inherited documentation)

test_str(*self*)

Inherited from `unittest.case.TestCase`

`__call__()`, `__eq__()`, `__hash__()`, `__init__()`, `__ne__()`, `__repr__()`, `__str__()`, `addCleanup()`, `addTypeEqualityFunc()`, `assertAlmostEqual()`, `assertAlmostEquals()`, `assertDictContainsSubset()`, `assertDictEqual()`, `assertEqual()`, `assertEquals()`, `assertFalse()`, `assertGreater()`, `assertGreaterEqual()`, `assertIn()`, `assertIs()`, `assertIsInstance()`, `assertIsNone()`, `assertIsNot()`, `assertIsNotNone()`, `assertItemsEqual()`, `assertLess()`, `assertLessEqual()`, `assertListEqual()`, `assertMultiLineEqual()`, `assertNotAlmostEqual()`, `assertNotAlmostEquals()`, `assertNotEqual()`, `assertNotEquals()`, `assertNotIn()`, `assertNotIsInstance()`, `assertNotRegexpMatches()`, `assertRaises()`, `assertRaisesRegexp()`, `assertRegexpMatches()`, `assertSequenceEqual()`, `assertSetEqual()`, `assertTrue()`, `assertTupleEqual()`, `assert_()`, `countTestCases()`, `debug()`, `defaultTestResult()`, `doCleanups()`, `fail()`, `failIf()`, `failIfAlmostEqual()`, `failIfEqual()`, `failUnless()`, `failUnlessAlmostEqual()`, `failUnlessEqual()`, `failUnlessRaises()`, `id()`, `run()`, `setUpClass()`, `shortDescription()`, `skipTest()`, `tearDown()`, `tearDownClass()`

Inherited from `object`

`__delattr__()`, `__format__()`, `__getattr__()`, `__new__()`, `__reduce__()`, `__reduce_ex__()`, `__setattr__()`, `__sizeof__()`, `__subclasshook__()`

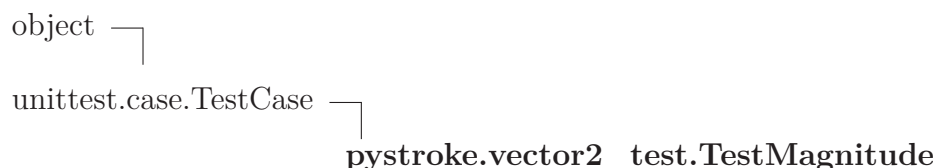
12.2.2 Properties

Name	Description
<i>Inherited from object</i> __class__	

12.2.3 Class Variables

Name	Description
<i>Inherited from unittest.case.TestCase</i> longMessage, maxDiff	

12.3 Class *TestMagnitude*



12.3.1 Methods

setUp(*self*)

Hook method for setting up the test fixture before exercising it.

Overrides: `unittest.case.TestCase.setUp` `exitit`(inherited documentation)

test_magnitude(*self*)

Inherited from unittest.case.TestCase

__call__(), __eq__(), __hash__(), __init__(), __ne__(), __repr__(), __str__(), addCleanup(), addTypeEqualityFunc(), assertAlmostEqual(), assertAlmostEquals(), assertDictContainsSubset(), assertDictEqual(), assertEquals(), assertEquals(), assertFalse(), assertGreater(), assertGreaterEqual(), assertIn(), assertIs(), assertIsInstance(), assertIsNone(), assertIsNot(), assertIsNotNone(), assertItemsEqual(), assertLess(), assertLessEqual(), assertListEqual(), assertMultiLineEqual(), assertNotAlmostEqual(), assertNotAlmostEquals(), assertNotEqual(), assertNotEquals(), assertNotIn(), assertNotIsInstance(), assertNotRegexpMatches(), assertRaises(), assertRaisesRegexp(), assertRegexpMatches(), assertSequenceEqual(), assertSetEqual(), assertTrue(), assertTupleEqual(), assert_(), countTestCases(),

`debug()`, `defaultTestResult()`, `doCleanups()`, `fail()`, `failIf()`, `failIfAlmostEqual()`, `failIfEqual()`, `failUnless()`, `failUnlessAlmostEqual()`, `failUnlessEqual()`, `failUnlessRaises()`, `id()`, `run()`, `setUpClass()`, `shortDescription()`, `skipTest()`, `tearDown()`, `tearDownClass()`

Inherited from object

`__delattr__()`, `__format__()`, `__getattr__()`, `__new__()`, `__reduce__()`, `__reduce_ex__()`, `__setattr__()`, `__sizeof__()`, `__subclasshook__()`

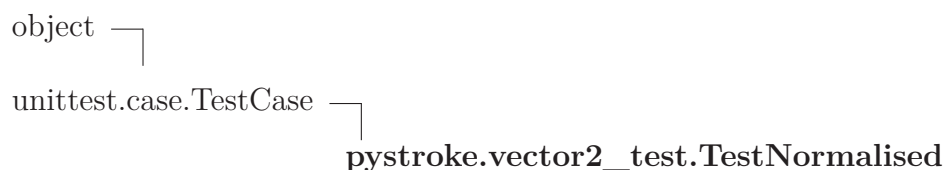
12.3.2 Properties

Name	Description
<i>Inherited from object</i>	
<code>__class__</code>	

12.3.3 Class Variables

Name	Description
<i>Inherited from <code>unittest.case.TestCase</code></i>	
<code>longMessage</code> , <code>maxDiff</code>	

12.4 Class *TestNormalised*



12.4.1 Methods

<code>setUp(self)</code> Hook method for setting up the test fixture before exercising it. Overrides: <code>unittest.case.TestCase.setUp</code> <code>exitit</code> (inherited documentation)
<code>test_normalised(self)</code>

Inherited from `unittest.case.TestCase`

`__call__()`, `__eq__()`, `__hash__()`, `__init__()`, `__ne__()`, `__repr__()`,
`__str__()`, `addCleanup()`, `addTypeEqualityFunc()`, `assertAlmostEqual()`, `asser-`
`tAlmostEqual()`, `assertDictContainsSubset()`, `assertDictEqual()`, `assertEqual()`, `as-`
`sertEquals()`, `assertFalse()`, `assertGreater()`, `assertGreaterEqual()`, `assertIn()`, `as-`
`sertIs()`, `assertIsInstance()`, `assertIsNone()`, `assertIsNot()`, `assertIsNotNone()`, `as-`
`sertItemsEqual()`, `assertLess()`, `assertLessEqual()`, `assertListEqual()`, `assertMulti-`
`LineEqual()`, `assertNotAlmostEqual()`, `assertNotAlmostEquals()`, `assertNotEqual()`,
`assertNotEquals()`, `assertNotIn()`, `assertNotIsInstance()`, `assertNotRegexMatches()`,
`assertRaises()`, `assertRaisesRegex()`, `assertRegexMatches()`, `assertSequenceEqual()`,
`assertSetEqual()`, `assertTrue()`, `assertTupleEqual()`, `assert_()`, `countTestCases()`,
`debug()`, `defaultTestResult()`, `doCleanups()`, `fail()`, `failIf()`, `failIfAlmostEqual()`,
`failIfEqual()`, `failUnless()`, `failUnlessAlmostEqual()`, `failUnlessEqual()`, `failUnless-`
`Raises()`, `id()`, `run()`, `setUpClass()`, `shortDescription()`, `skipTest()`, `tearDown()`,
`tearDownClass()`

Inherited from object

`__delattr__()`, `__format__()`, `__getattr__()`, `__new__()`, `__reduce__()`,
`__reduce_ex__()`, `__setattr__()`, `__sizeof__()`, `__subclasshook__()`

12.4.2 Properties

Name	Description
<i>Inherited from object</i>	
<code>__class__</code>	

12.4.3 Class Variables

Name	Description
<i>Inherited from unittest.case.TestCase</i>	
<code>longMessage</code> , <code>maxDiff</code>	

12.5 Class *TestDotProduct*



12.5.1 Methods**setUp(*self*)**

Hook method for setting up the test fixture before exercising it.

Overrides: `unittest.case.TestCase.setUp` `exitit`(inherited documentation)**test_dot_product(*self*)*****Inherited from unittest.case.TestCase***

`__call__()`, `__eq__()`, `__hash__()`, `__init__()`, `__ne__()`, `__repr__()`,
`__str__()`, `addCleanup()`, `addTypeEqualityFunc()`, `assertAlmostEqual()`, `assertAlmostEquals()`, `assertDictContainsSubset()`, `assertDictEqual()`, `assertEqual()`, `assertEquals()`, `assertFalse()`, `assertGreater()`, `assertGreaterEqual()`, `assertIn()`, `assertIs()`, `assertIsInstance()`, `assertIsNone()`, `assertIsNot()`, `assertIsNotNone()`, `assertItemsEqual()`, `assertLess()`, `assertLessEqual()`, `assertListEqual()`, `assertMultiLineEqual()`, `assertNotAlmostEqual()`, `assertNotAlmostEquals()`, `assertNotEqual()`, `assertNotEquals()`, `assertNotIn()`, `assertNotIsInstance()`, `assertNotRegexpMatches()`, `assertRaises()`, `assertRaisesRegexp()`, `assertRegexpMatches()`, `assertSequenceEqual()`, `assertSetEqual()`, `assertTrue()`, `assertTupleEqual()`, `assert_()`, `countTestCases()`, `debug()`, `defaultTestResult()`, `doCleanups()`, `fail()`, `failIf()`, `failIfAlmostEqual()`, `failIfEqual()`, `failUnless()`, `failUnlessAlmostEqual()`, `failUnlessEqual()`, `failUnlessRaises()`, `id()`, `run()`, `setUpClass()`, `shortDescription()`, `skipTest()`, `tearDown()`, `tearDownClass()`

Inherited from object

`__delattr__()`, `__format__()`, `__getattr__()`, `__new__()`, `__reduce__()`,
`__reduce_ex__()`, `__setattr__()`, `__sizeof__()`, `__subclasshook__()`

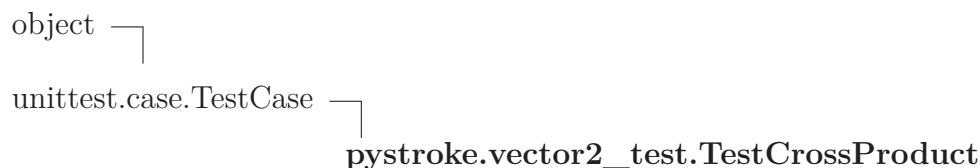
12.5.2 Properties

Name	Description
<i>Inherited from object</i>	
<code>__class__</code>	

12.5.3 Class Variables

Name	Description
<i>Inherited from unittest.case.TestCase</i>	
<code>longMessage</code> , <code>maxDiff</code>	

12.6 Class `TestCrossProduct`



12.6.1 Methods

`setUp(self)`

Hook method for setting up the test fixture before exercising it.

Overrides: `unittest.case.TestCase.setUp` `exitit`(inherited documentation)

`test_cross_product(self)`

Inherited from `unittest.case.TestCase`

`__call__()`, `__eq__()`, `__hash__()`, `__init__()`, `__ne__()`, `__repr__()`, `__str__()`, `addCleanup()`, `addTypeEqualityFunc()`, `assertAlmostEqual()`, `assertAlmostEquals()`, `assertDictContainsSubset()`, `assertDictEqual()`, `assertEqual()`, `assertEquals()`, `assertFalse()`, `assertGreater()`, `assertGreaterEqual()`, `assertIn()`, `assertIs()`, `assertIsInstance()`, `assertIsNone()`, `assertIsNot()`, `assertIsNotNone()`, `assertItemsEqual()`, `assertLess()`, `assertLessEqual()`, `assertListEqual()`, `assertMultiLineEqual()`, `assertNotAlmostEqual()`, `assertNotAlmostEquals()`, `assertNotEqual()`, `assertNotEquals()`, `assertNotIn()`, `assertNotIsInstance()`, `assertNotRegexMatches()`, `assertRaises()`, `assertRaisesRegex()`, `assertRegexMatches()`, `assertSequenceEqual()`, `assertSetEqual()`, `assertTrue()`, `assertTupleEqual()`, `assert_()`, `countTestCases()`, `debug()`, `defaultTestResult()`, `doCleanups()`, `fail()`, `failIf()`, `failIfAlmostEqual()`, `failIfEqual()`, `failUnless()`, `failUnlessAlmostEqual()`, `failUnlessEqual()`, `failUnlessRaises()`, `id()`, `run()`, `setUpClass()`, `shortDescription()`, `skipTest()`, `tearDown()`, `tearDownClass()`

Inherited from `object`

`__delattr__()`, `__format__()`, `__getattr__()`, `__new__()`, `__reduce__()`, `__reduce_ex__()`, `__setattr__()`, `__sizeof__()`, `__subclasshook__()`

12.6.2 Properties

Name	Description
<i>Inherited from <code>object</code></i>	

continued on next page

Name	Description
<code>__class__</code>	

12.6.3 Class Variables

Name	Description
<i>Inherited from <code>unittest.case.TestCase</code></i> <code>longMessage</code> , <code>maxDiff</code>	

13 Module *pystroke.vex*

13.1 Variables

Name	Description
ACTIVEEVENT	Value: 1
ANYFORMAT	Value: 268435456
ASYNCLIT	Value: 4
AUDIO_S16	Value: 32784
AUDIO_S16LSB	Value: 32784
AUDIO_S16MSB	Value: 36880
AUDIO_S16SYS	Value: 32784
AUDIO_S8	Value: 32776
AUDIO_U16	Value: 16
AUDIO_U16LSB	Value: 16
AUDIO_U16MSB	Value: 4112
AUDIO_U16SYS	Value: 16
AUDIO_U8	Value: 8
BIG_ENDIAN	Value: 4321
BLEND_ADD	Value: 1
BLEND_MAX	Value: 5
BLEND_MIN	Value: 4
BLEND_MULT	Value: 3
BLEND_RGBA_ADD	Value: 6
BLEND_RGBA_MAX	Value: 16
BLEND_RGBA_MIN	Value: 9
BLEND_RGBA_MULT	Value: 8
BLEND_RGBA_SUB	Value: 7
BLEND_RGB_ADD	Value: 1
BLEND_RGB_MAX	Value: 5
BLEND_RGB_MIN	Value: 4
BLEND_RGB_MULT	Value: 3
BLEND_RGB_SUB	Value: 2
BLEND_SUB	Value: 2
BUTTON_X1	Value: 6
BUTTON_X2	Value: 7
DOUBLEBUF	Value: 1073741824
FULLSCREEN	Value: -2147483648
GL_ACCELERATED_VISUAL	Value: 15
GL_ACCUM_ALPHA_SIZE	Value: 11
GL_ACCUM_BLUE_SIZE	Value: 10

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Name	Description
GL_ACCUM_GREEN_SIZE	Value: 9
GL_ACCUM_RED_SIZE	Value: 8
GL_ALPHA_SIZE	Value: 3
GL_BLUE_SIZE	Value: 2
GL_BUFFER_SIZE	Value: 4
GL_DEPTH_SIZE	Value: 6
GL_DOUBLEBUFFER	Value: 5
GL_GREEN_SIZE	Value: 1
GL_MULTISAMPLEBUFFERS	Value: 13
GL_MULTISAMPLESAMPLERES	Value: 14
GL_RED_SIZE	Value: 0
GL_STENCIL_SIZE	Value: 7
GL_STEREO	Value: 12
GL_SWAP_CONTROL	Value: 16
HAT_CENTERED	Value: 0
HAT_DOWN	Value: 4
HAT_LEFT	Value: 8
HAT_LEFTDOWN	Value: 12
HAT_LEFTUP	Value: 9
HAT_RIGHT	Value: 2
HAT_RIGHTDOWN	Value: 6
HAT_RIGHTUP	Value: 3
HAT_UP	Value: 1
HWACCEL	Value: 256
HWPALETTE	Value: 536870912
HWSURFACE	Value: 1
IYUV_OVERLAY	Value: 1448433993
JOYAXISMOTION	Value: 7
JOYBALLMOTION	Value: 8
JOYBUTTONDOWN	Value: 10
JOYBUTTONUP	Value: 11
JOYHATMOTION	Value: 9
KEYDOWN	Value: 2
KEYUP	Value: 3
KMOD_ALT	Value: 768
KMOD_CAPS	Value: 8192
KMOD_CTRL	Value: 192
KMOD_LALT	Value: 256

continued on next page

Name	Description
KMOD_LCTRL	Value: 64
KMOD_LMETA	Value: 1024
KMOD_LSHIFT	Value: 1
KMOD_META	Value: 3072
KMOD_MODE	Value: 16384
KMOD_NONE	Value: 0
KMOD_NUM	Value: 4096
KMOD_RALT	Value: 512
KMOD_RCTRL	Value: 128
KMOD_RMETA	Value: 2048
KMOD_RSHIFT	Value: 2
KMOD_SHIFT	Value: 3
K_0	Value: 48
K_1	Value: 49
K_2	Value: 50
K_3	Value: 51
K_4	Value: 52
K_5	Value: 53
K_6	Value: 54
K_7	Value: 55
K_8	Value: 56
K_9	Value: 57
K_AMPERSAND	Value: 38
K_ASTERISK	Value: 42
K_AT	Value: 64
K_BACKQUOTE	Value: 96
K_BACKSLASH	Value: 92
K_BACKSPACE	Value: 8
K_BREAK	Value: 318
K_CAPSLOCK	Value: 301
K_CARET	Value: 94
K_CLEAR	Value: 12
K_COLON	Value: 58
K_COMMA	Value: 44
K_DELETE	Value: 127
K_DOLLAR	Value: 36
K_DOWN	Value: 274
K_END	Value: 279
K_EQUALS	Value: 61
K_ESCAPE	Value: 27
K_EURO	Value: 321
K_EXCLAIM	Value: 33

continued on next page

Name	Description
K_F1	Value: 282
K_F10	Value: 291
K_F11	Value: 292
K_F12	Value: 293
K_F13	Value: 294
K_F14	Value: 295
K_F15	Value: 296
K_F2	Value: 283
K_F3	Value: 284
K_F4	Value: 285
K_F5	Value: 286
K_F6	Value: 287
K_F7	Value: 288
K_F8	Value: 289
K_F9	Value: 290
K_FIRST	Value: 0
K_GREATER	Value: 62
K_HASH	Value: 35
K_HELP	Value: 315
K_HOME	Value: 278
K_INSERT	Value: 277
K_KP0	Value: 256
K_KP1	Value: 257
K_KP2	Value: 258
K_KP3	Value: 259
K_KP4	Value: 260
K_KP5	Value: 261
K_KP6	Value: 262
K_KP7	Value: 263
K_KP8	Value: 264
K_KP9	Value: 265
K_KP_DIVIDE	Value: 267
K_KP_ENTER	Value: 271
K_KP_EQUALS	Value: 272
K_KP_MINUS	Value: 269
K_KP_MULTIPLY	Value: 268
K_KP_PERIOD	Value: 266
K_KP_PLUS	Value: 270
K_LALT	Value: 308
K_LAST	Value: 323
K_LCTRL	Value: 306
K_LEFT	Value: 276

continued on next page

Name	Description
K_LEFTBRACKET	Value: 91
K_LEFTPAREN	Value: 40
K_LESS	Value: 60
K_LMETA	Value: 310
K_LSHIFT	Value: 304
K_LSUPER	Value: 311
K_MENU	Value: 319
K_MINUS	Value: 45
K_MODE	Value: 313
K_NUMLOCK	Value: 300
K_PAGEDOWN	Value: 281
K_PAGEUP	Value: 280
K_PAUSE	Value: 19
K_PERIOD	Value: 46
K_PLUS	Value: 43
K_POWER	Value: 320
K_PRINT	Value: 316
K_QUESTION	Value: 63
K_QUOTE	Value: 39
K_QUOTEDBL	Value: 34
K_RALT	Value: 307
K_RCTRL	Value: 305
K_RETURN	Value: 13
K_RIGHT	Value: 275
K_RIGHTBRACKET	Value: 93
K_RIGHTPAREN	Value: 41
K_RMETA	Value: 309
K_RSHIFT	Value: 303
K_RSUPER	Value: 312
K_SCROLLOCK	Value: 302
K_SEMICOLON	Value: 59
K_SLASH	Value: 47
K_SPACE	Value: 32
K_SYSREQ	Value: 317
K_TAB	Value: 9
K_UNDERSCORE	Value: 95
K_UNKNOWN	Value: 0
K_UP	Value: 273
K_a	Value: 97
K_b	Value: 98
K_c	Value: 99
K_d	Value: 100

continued on next page

Name	Description
K_e	Value: 101
K_f	Value: 102
K_g	Value: 103
K_h	Value: 104
K_i	Value: 105
K_j	Value: 106
K_k	Value: 107
K_l	Value: 108
K_m	Value: 109
K_n	Value: 110
K_o	Value: 111
K_p	Value: 112
K_q	Value: 113
K_r	Value: 114
K_s	Value: 115
K_t	Value: 116
K_u	Value: 117
K_v	Value: 118
K_w	Value: 119
K_x	Value: 120
K_y	Value: 121
K_z	Value: 122
LIL_ENDIAN	Value: 1234
MOUSEBUTTONDOWN	Value: 5
MOUSEBUTTONUP	Value: 6
MOUSEMOTION	Value: 4
NOEVENT	Value: 0
NOFRAME	Value: 32
NUMEVENTS	Value: 32
OPENGL	Value: 2
OPENGLBLIT	Value: 10
PREALLOC	Value: 16777216
QUIT	Value: 12
RESIZABLE	Value: 16
RLEACCEL	Value: 16384
RLEACCELOK	Value: 8192
SCRAP_BMP	Value: 'image/bmp'
SCRAP_CLIPBOARD	Value: 0
SCRAP_PBM	Value: 'image/pbm'
SCRAP_PPM	Value: 'image/ppm'
SCRAP_SELECTION	Value: 1
SCRAP_TEXT	Value: 'text/plain'

continued on next page

Name	Description
SRCALPHA	Value: 65536
SRCCOLORKEY	Value: 4096
SWSURFACE	Value: 0
SYSWMEVENT	Value: 13
TIMER_RESOLUTION	Value: 10
USEREVENT	Value: 24
UYVY_OVERLAY	Value: 1498831189
VIDEOEXPOSE	Value: 17
VIDEORESIZE	Value: 16
YUY2_OVERLAY	Value: 844715353
YV12_OVERLAY	Value: 842094169
YVYU_OVERLAY	Value: 1431918169
__package__	Value: 'pystroke'

13.2 Class Vex

Vector sprite class (consider renaming) - consists of a list of points which are rendered relative to an x and y at draw time

Author: James Heslin (PROGRAM_IX)

13.2.1 Methods

__str__ (<i>self</i>)
Returns a string containing the x and y of the vector sprite
Return Value
A string containing the x and y of the vector sprite
(<i>type=string</i>)
Author: James Heslin (PROGRAM_IX)

__init__(*self*, *x*, *y*, *colour*, *points*, *width*, *scale_x*=1, *scale_y*=1)

Constructs a new Vex

Parameters

x: The X (horizontal) co-ordinate of the vector sprite
(*type=int*)

y: The Y (vertical) co-ordinate of the vector sprite
(*type=int*)

colour: The colour of the vector sprite
(*type=pygame.Color*)

points: The points that make up the vector sprite
(*type=list/tuple of tuples (int, int)*)

width: The width of the vector sprite's lines
(*type=int*)

scale_x: The horizontal multiplier of the vector sprite's size
(*type=double*)

scale_y: The vertical multiplier of the vector sprite's size
(*type=double*)

Author: James Heslin (PROGRAM_IX)

dir_vec(*self*)

Return a copy of the vector sprite's direction vector (the first vector in its list of points), adjusted to have absolute co-ordinates

Return Value

A copy of the vector sprites's direction vector, with absolute co-ordinates
(*type=Vector2*)

Author: James Heslin (PROGRAM_IX)

rel_dir(*self*)

Returns a copy of the relative direction vector

Return Value

A copy of the relative direction vector
(*type=Vector2*)

draw(*self*, *surface*)

Renders the vector sprite to the surface specified

Parameters

surface: The surface onto which the vector sprite is to be rendered
(*type=pygame.Surface*)

Author: James Heslin (PROGRAM_IX)

update(*self*, *surface*)

Updates the vector sprite with respect to the specified surface

Parameters

surface: The surface to update the vector sprite against
(*type=pygame.Surface*)

Author: James Heslin (PROGRAM_IX)

distance_to(*self*, *p*)

Returns the distance between the centre of the vector sprite and the specified point

Parameters

p: The point to compare to the vector sprite
(*type=Vector2*)

Return Value

The distance between the centre of the vector sprite and the specified point
(*type=double*)

Author: James Heslin (PROGRAM_IX)

vector_between(*self*, *p*)

Returns the vector between the vector sprite and the specified point

Parameters

p: The point to compare to the vector sprite
(*type=Vector2*)

Return Value

The vector between the vector sprite and the specified point
(*type=Vector2*)

Author: James Heslin (PROGRAM_IX)

angle_to_face_point(*self*, *p*)

Return the rotation angle (in radians) required for the vector sprite to face a specified point (face: the vector sprite's direction vector is pointing towards the point)

Parameters

p: The point to face
(*type=Vector2*)

Return Value

The rotation angle (in radians) required for the vector sprite to face p
(*type=double*)

Author: James Heslin (PROGRAM_IX)

rotate_to_face_point(*self*, *p*)

Rotate the vex to face a specified point

Parameters

p: The point to face
(*type=Vector2*)

Author: James Heslin (PROGRAM_IX)

rotate_by_radians(*self*, *a*)

Rotate the shape by a given number of radians

Parameters

a: The number of radians to rotate the vector sprite by
(*type=double*)

Author: James Heslin (PROGRAM_IX)

move_abs(*self*, *x*, *y*, *surface*)

Move the vector sprite in the X/Y plane without leaving the bounds of the specified surface - performs vector calculation to make sure diagonal movement is not faster than cardinal

Parameters

- x:** The X (horizontal) movement amount
(*type=double*)
- y:** The Y (vertical) movement amount
(*type=double*)
- surface:** The surface to use to restrict the movement of the vector sprite
(*type=pygame.Surface*)

Author: James Heslin (PROGRAM_IX)

move_rel(*self*, *x*, *y*, *surface*)

Move the vector sprite in the X/Y plane without leaving the bounds of the specified surface - assumes all inputs have already been calculated to restrict movement speed

Parameters

- x:** The X (horizontal) movement amount
(*type=double*)
- y:** The Y (vertical) movement amount
(*type=double*)
- surface:** The surface to use to restrict the movement of the vector sprite
(*type=pygame.Surface*)

Author: James Heslin (PROGRAM_IX)

get_relative_points_tuple(*self*)

Returns a list of 2D points as tuples, relative to vector sprite position, respective of scale

Return Value

- A list of tuples representing the points in the vector sprite, with co-ordinates relative to the vector sprite's position, respective of scale
(*type=list of tuples (int, int)*)

Author: James Heslin (PROGRAM_IX)

get_absolute_points_tuple(self)

Returns a list of 2D points as tuples, relative to origin, respective of scale

Return Value

A list of tuples representing the points in the vector sprite, with co-ordinates relative to the origin, respective of scale

(type=list of tuples (int, int))

Author: James Heslin (PROGRAM_IX)

get_relative_points_vector2(self)

Returns a list of Vector2 objects representing 2D points, relative to vector sprite position, respective of scale

Return Value

A list of Vector2 objects representing the points in the vector sprite, with co-ordinates relative to the vector sprite's position, respective of scale

(type=list of Vector2 objects)

Author: James Heslin (PROGRAM_IX)

get_absolute_points_vector2(self)

Returns a list of Vector2 objects representing 2D points, relative to origin, respective of scale

Return Value

A list of Vector2 objects representing the points in the vector sprite, with co-ordinates relative to the origin, respective of scale

(type=list of Vector2 objects)

Author: James Heslin (PROGRAM_IX)

point_inside(*self*, *v*)

Determines roughly if a given point is inside the vector sprite, can be used for crude collision detection

Parameters

v: The point to check
(type=Vector2)

Return Value

True if the point is inside the vector sprite, False otherwise
(type=boolean)

Author: James Heslin (PROGRAM_IX)

13.2.2 Class Variables

Name	Description
radius	Value: 20

Index

- pystroke (*package*), 3
 - pystroke.behaviour (*module*), 4
 - pystroke.behaviour.Behaviour (*class*), 4
 - pystroke.behaviour_engine (*module*), 5
 - pystroke.behaviour_engine.BehaviourEngine (*class*), 5
 - pystroke.draw_engine (*module*), 6–11
 - pystroke.draw_engine.DrawEngine (*class*), 11
 - pystroke.event_engine (*module*), 12–17
 - pystroke.event_engine.EventEngine (*class*), 17
 - pystroke.game (*module*), 18
 - pystroke.game.Game (*class*), 18
 - pystroke.game.main (*function*), 18
 - pystroke.game_engine (*module*), 19–25
 - pystroke.game_engine.GameEngine (*class*), 24–25
 - pystroke.hud (*module*), 26–35
 - pystroke.hud.HUD (*class*), 34–35
 - pystroke.hud.HUDElement (*class*), 31
 - pystroke.hud.HUDLine (*class*), 32–33
 - pystroke.hud.HUDPolygon (*class*), 33–34
 - pystroke.hud.HUDText (*class*), 31–32
 - pystroke.input_engine (*module*), 36–42
 - pystroke.input_engine.InputEngine (*class*), 41–42
 - pystroke.locals (*module*), 43
 - pystroke.vector2 (*module*), 44–48
 - pystroke.vector2.Vector2 (*class*), 44–48
 - pystroke.vector2_test (*module*), 49–55
 - pystroke.vector2_test.TestCrossProduct (*class*), 53–55
 - pystroke.vector2_test.TestDotProduct (*class*), 52–53
 - pystroke.vector2_test.TestMagnitude (*class*), 50–51
 - pystroke.vector2_test.TestNormalised (*class*), 51–52
 - pystroke.vector2_test.TestVector2 (*class*), 49–50
 - pystroke.vex (*module*), 56–68
 - pystroke.vex.Vex (*class*), 62–68