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How to get keyboard input in PyGame ?

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While using pygame module of Python, we sometimes need to use the keyboard input for various operations such as moving a character in a certain direction. To achieve this, we have to see all the events happening. Pygame keeps track of events that occur, which we can see with the `events.get()` function. In this article, we are going to discuss how we can get and use various keyboard inputs in pygame.

Detecting if a key is pressed:

Whenever a key is pressed or released, `pygame.event()` queue methods `pygame.KEYDOWN` and `pygame.KEYUP` events respectively.

For example, if we want to detect if a key was pressed, we will track if any event of `pygame.KEYDOWN` occurred or not and, accordingly, we will get to know if any key was pressed or not. The code for detecting if any key was pressed or not can be written as:

Python

```
# importing pygame module
import pygame

# importing sys module
import sys

# initialising pygame
pygame.init()

# creating display
display = pygame.display.set_mode((300, 300))

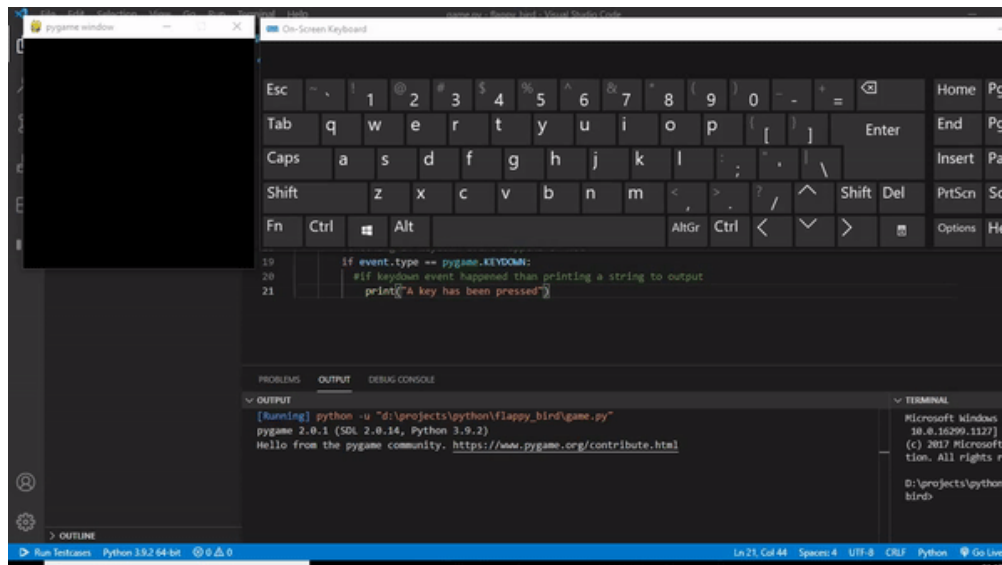
# creating a running loop
while True:
```

```
# creating a loop to check events that
# are occurring
for event in pygame.event.get():
    if event.type == pygame.QUIT:
        pygame.quit()
        sys.exit()

# checking if keydown event happened or not
if event.type == pygame.KEYDOWN:

    # if keydown event happened
    # then printing a string to output
    print("A key has been pressed")
```

Output:



After running this code, it is seen that whenever a key has pressed a string “A key has been pressed” is printed on the terminal

Detecting which key was pressed:

To know which key was pressed, we have to check the event.key variable corresponds to which pygame keys. For example, the pygame key for the letter “A” is “K_a” then we will compare event.Key with K a and if it comes to be same that means the key “A” was pressed.

The various keyboard key and corresponding pygame keys are:

pygamekey	Description
K_BACKSPACE	backspace
K_TAB	tab
K_CLEAR	clear
K_RETURN	return
K_PAUSE	pause
K_ESCAPE	escape
K_SPACE	space
K_EXCLAIM	exclaim
K_HASH	hash
K_QUOTEDBL	quotedbl
K_DOLLAR	dollar
K_AMPERSAND	ampersand
K_QUOTE	quote
K_LEFTPAREN	left parenthesis
K_RIGHTPAREN	right parenthesis
K_ASTERISK	asterisk

pygamekey	Description
K_PLUS	plus sign
K_COMMA	comma
K_MINUS	minus sign
K_PERIOD	period
K_SLASH	forward slash
K_0	0
K_1	1
K_2	2
K_3	3
K_4	4
K_5	5
K_6	6
K_7	7
K_8	8
K_9	9
K_COLON	colon
K_SEMICOLON	semicolon

pygamekey	Description
K_LESS	less-than sign
K_EQUALS	equals sign
K_GREATER	greater-than sign
K_QUESTION	question mark
K_AT	at
K_LEFTBRACKET	left bracket
K_BACKSLASH	backslash
K_RIGHTBRACKET	right bracket
K_CARET	caret
K_UNDERSCORE	underscore
K_BACKQUOTE	grave
K_a,b,c.....z	A to Z Alphabet
K_DELETE	delete
K_KP0, K_KP1, K_KP2....K_KP9	keypad 0 to 9
K_KP_PERIOD	keypad period
K_KP_DIVIDE	keypad divide
K_KP_MULTIPLY	keypad multiply

pygamekey	Description
K_KP_MINUS	keypad minus
K_KP_PLUS	keypad plus
K_KP_ENTER	keypad enter
K_KP_EQUALS	keypad equals
K_UP	up arrow
K_DOWN	down arrow
K_RIGHT	right arrow
K_LEFT	Left arrow
K_INSERT	Insert
K_HOME	Home
K_END	End
K_PAGEUP	Page Up
K_PAGEDOWN	Page Down
K_F1, K_F2, K_F3.....K_F15	F1 to F15
K_NUMLOCK	Numlock
K_CAPSLOCK	Capsloack
K_SCROLLOCK	Scrollock

pygamekey	Description
K_RSHIFT	Right shift
K_LSHIFT	Left shift
K_RCTRL	right control
K_LCTRL	Left control
K_RALT	Right alt
K_LALT	Left alt
K_RMETA	right meta
K_LMETA	left meta
K_LSUPER	left Windows key
K_RSUPER	right Windows key
K_MODE	mode shift
K_HELP	Help
K_PRINT	Print Screen
K_SYSREQ	sysrq
K_BREAK	Break
K_MENU	Menu
K_POWER	Power

pygamekey	Description
K_EURO	Euro

For example, let's create a code to check if key "A" or "J" or "P" or "M" was pressed or not. The code for checking will be:

Python

```
# importing pygame module
import pygame

# importing sys module
import sys

# initialising pygame
pygame.init()

# creating display
display = pygame.display.set_mode((300, 300))

# creating a running loop
while True:

    # creating a loop to check events that
    # are occurring
    for event in pygame.event.get():
        if event.type == pygame.QUIT:
            pygame.quit()
            sys.exit()

    # checking if keydown event happened or not
    if event.type == pygame.KEYDOWN:

        # checking if key "A" was pressed
        if event.key == pygame.K_a:
            print("Key A has been pressed")

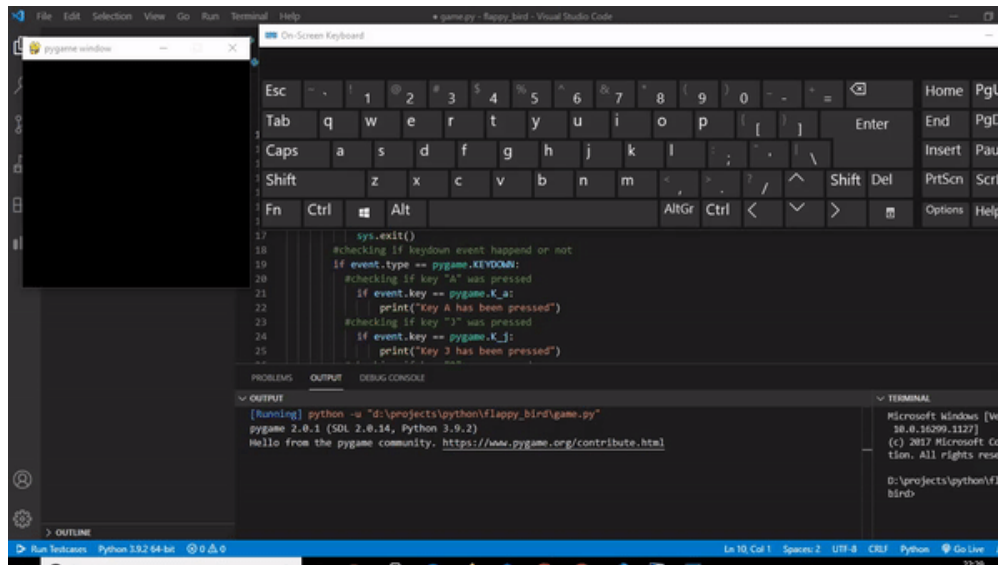
        # checking if key "J" was pressed
        if event.key == pygame.K_j:
            print("Key J has been pressed")

        # checking if key "P" was pressed
        if event.key == pygame.K_p:
            print("Key P has been pressed")
```



```
# checking if key "M" was pressed
if event.key == pygame.K_m:
    print("Key M has been pressed")
```

Output:



When we run this code and press the given keys the corresponding strings will be printed on the terminal.

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