	PUNE INSTITUTE OF COMPUTER TECHNOLOGY, PUNE -43		
	Department of Electronics and Telecommunication Engineering		
	ASSESSMENT YEAR: - 2021-22		**CLASS: - TE-V**
	Subject: - Advanced Java Programming		
Expt. No: 06	**LAB Ref: ETC/2021-22/**	**ROLL NO: 32147**	**SUBMISION DATE:**

Title: - Demonstrate status of key on GUI

Problem Statement: -

Write a program in Java to demonstrate status of key on GUI such as KeyPressed, KeyReleased, KeyTyped Use Key listener interface.

Objectives: -

- To learn the concept of Key Listener
- To learn various methods in KeyListener interface

Theory (Write Theory of the new concept demonstrated in this Assignment)

Java KeyListener Interface

The Java KeyListener is notified whenever you change the state of key. It is notified against KeyEvent.

The KeyListener interface is found in java.awt.event package, and it has three methods.

Interface declaration

Following is the declaration for java.awt.event.KeyListener interface:

1. public interface KeyListener extends EventListener

Methods of KeyListener interface

The signature of 3 methods found in KeyListener interface are given below:

Sr. no.	Method name	Description
1.	public abstract void keyPressed (KeyEvent e);	It is invoked when a key has been pressed.
2.	public abstract void keyReleased (KeyEvent e);	It is invoked when a key has been released.
3.	public abstract void keyTyped (KeyEvent e);	It is invoked when a key has been typed.

The KeyEvent Class

The KeyEvent class inherits many useful methods from the InputEvent class, such as getKeyChar, getKeyCode, etc.

Method	Purpose
int getKeyChar()	Obtains the Unicode character associated with this event. Only rely on this va lue for key-typed events.

int getKeyCode()	Obtains the key code associated with this event. The key code identifies the particular key on the keyboard that the user pressed or released. The KeyEvent class defines many key code constants for commonly seen keys. For example, VK_A specifies the key labeled **A**, and V key.
String getKeyText(int) String getKeyModifiersText(int)	Return text descriptions of the event's key code and modifier keys, respectively.
int getModifiersEx() String getModifiersExText(int modifiers)	Return the extended modifiers mask for this event. There are methods inherited from the InputEvent class. Extended modifiers represent the state of all modal keys. The getModifiersExTe describing the extended modifier keys and mouse buttons. Since the getModifiersEx and getModifiersExText methods provide more information about key events, they are preferred over the getKeyText or getKeyModifiersT
boolean isActionKey()	Returns true if the key firing the event is an action key. Examples of action keys include Cu , Copy, Paste, Page Up, Caps Lock, the arrow and function keys. This information is valid only released events.
int getKeyLocation()	Returns the location of the key that fired this event. This provides a way to distinguish keys that occur more than once on a keyboard, such as the two shift keys, for example. The possible value are KEY_LOCATION_STANDARD, KEY_LOCATION_LEFT, KEY_LOCATION_RIGHT, or KEY_LOCATION_UNKNOWN. This method always returns KEY_LOCATION_UNKNOWN for key-typed events.

Diagram: -

Learning Outcomes: -		
	1	I have learnt the concept of Key Listener
	2	I have implement methods from KeyListener interface
	3	I have implemented various methods from KeyEvent class

Continuous Assessment			
RPP (out of 5)	**SPO (out of 5)**	**Total (Out of 10)**	**Sign**
			Date: -

#(RPP – Regularity, Punctuality, Performance), (SPO – Submission, Presentation, Oral)

Important Questions: -
1. What is KeyListener interface?
2. What is KeyEvent class?
3. What are the different methods from KeyListener interface?
4. Differentiate between KeyListener interface and KeyAdapter class.