**SAMPLE CODE :**

Sample Code :

// State Class

**public** **class** State {

**public** State KeyReleased(KeyEvent e, Monkey monkey) {

**return** **this**;

}

**public** State keyPressed(KeyEvent e, Monkey monkey) {

**return** **this**;

}

}

//MonkeyIdle extends State SuperClass

**public** **class** MonkeyIdle **extends** State{

**public** MonkeyIdle() {

// empty Constructor

}

@Override

**public** State KeyReleased(KeyEvent e, Monkey monkey) {

// **TODO** Auto-generated method stub

**int** key = e.getKeyCode();

**if** (key == KeyEvent.***VK\_LEFT***) {

monkey.setDx(0);

}

**if** (key == KeyEvent.***VK\_RIGHT***) {

monkey.setDx(0);

}

**if** (key == KeyEvent.***VK\_UP***) {

monkey.setDy(0);

}

**if** (key == KeyEvent.***VK\_DOWN***) {

monkey.setDy(0);

}

**return** **new** MonkeyIdle();

}

@Override

**public** State keyPressed(KeyEvent e, Monkey monkey) {

// **TODO** Auto-generated method stub

**int** key = e.getKeyCode();

**if** (key == KeyEvent.***VK\_LEFT***) {

monkey.setDx(-Wonderland.***STEP\_SIZE***); monkey.setDy(0);

}

**if** (key == KeyEvent.***VK\_RIGHT***) {

monkey.setDx(Wonderland.***STEP\_SIZE***); monkey.setDy(0);

}

**if** (key == KeyEvent.***VK\_UP***) {

monkey.setDy(-Wonderland.***STEP\_SIZE***); monkey.setDx(0);

}

**if** (key == KeyEvent.***VK\_DOWN***) {

monkey.setDy(Wonderland.***STEP\_SIZE***); monkey.setDx(0);

}

monkey.move();

**return** **new** MonkeyMove();

}

}

//MonkeyMove Class extends State SuperClass

**public** **class** MonkeyMove **extends** State {

@Override

**public** State KeyReleased(KeyEvent e, Monkey monkey) {

// **TODO** Auto-generated method stub

**int** key = e.getKeyCode();

**if** (key == KeyEvent.***VK\_LEFT***) {

monkey.setDx(0);

}

**if** (key == KeyEvent.***VK\_RIGHT***) {

monkey.setDx(0);

}

**if** (key == KeyEvent.***VK\_UP***) {

monkey.setDy(0);

}

**if** (key == KeyEvent.***VK\_DOWN***) {

monkey.setDy(0);

}

**return** **new** MonkeyIdle();

}

@Override

**public** State keyPressed(KeyEvent e, Monkey monkey) {

// **TODO** Auto-generated method stub

**int** key = e.getKeyCode();

**if** (key == KeyEvent.***VK\_LEFT***) {

monkey.setDx(-Wonderland.***STEP\_SIZE***); monkey.setDy(0);

}

**if** (key == KeyEvent.***VK\_RIGHT***) {

monkey.setDx(Wonderland.***STEP\_SIZE***); monkey.setDy(0);

}

**if** (key == KeyEvent.***VK\_UP***) {

monkey.setDy(-Wonderland.***STEP\_SIZE***); monkey.setDx(0);

}

**if** (key == KeyEvent.***VK\_DOWN***) {

monkey.setDy(Wonderland.***STEP\_SIZE***); monkey.setDx(0);

}

monkey.move();

**return** **new** MonkeyMove();

}

}

// Monkey Class is the Subject which is used by the Wonderland Class (Client).

**public** **class** Monkey {

**private** Image image;

**private** **int** xCordinate;

**private** **int** yCordinate;

**private** State Currentstate;

**private** **int** MonkeyWidth = Wonderland.***STEP\_SIZE***;

**private** **int** MonkeyHeight = Wonderland.***STEP\_SIZE***;

**private** **int** dx;

**private** **int** dy;

// Other getter setter methods

**public** Image getImage() {

**return** image;

}

**public** **void** setImage(Image image) {

**this**.image = image;

}

**public** **int** getxCordinate() {

**return** xCordinate;

}

**public** **void** setxCordinate(**int** xCordinate) {

**this**.xCordinate = xCordinate;

}

**public** **int** getyCordinate() {

**return** yCordinate;

}

**public** **void** setyCordinate(**int** yCordinate) {

**this**.yCordinate = yCordinate;

}

**public** Monkey() {

Currentstate = **new** MonkeyIdle();

initialiseMonkey();

}

**private** **void** initialiseMonkey() {

ImageIcon MonkeyImage = **new** ImageIcon(**this**.getClass().getResource("/com/rudresh/game/monkey.png"));

image = MonkeyImage.getImage();

Random random = **new** Random();

xCordinate = random.nextInt(Wonderland.***GRID\_COUNT***)\* Wonderland.***STEP\_SIZE***;

yCordinate = random.nextInt(Wonderland.***GRID\_COUNT***)\* Wonderland.***STEP\_SIZE***;

}

**public** **void** move() {

**int** tempx = xCordinate+dx;

**int** tempy = yCordinate+dy;

**if**(tempx >= 0 && tempx<=(Wonderland.***SCREEN\_WIDTH***-MonkeyWidth)) xCordinate += dx;

**if**(tempy >= 0 && tempy<=(Wonderland.***SCREEN\_HEIGHT***-MonkeyHeight)) yCordinate += dy;

}

**public** **int** getDx() {

**return** dx;

}

**public** **void** setDx(**int** dx) {

**this**.dx = dx;

}

**public** **int** getDy() {

**return** dy;

}

**public** **void** setDy(**int** dy) {

**this**.dy = dy;

}

**public** **int** getMonkeyWidth() {

**return** MonkeyWidth;

}

**public** **void** setMonkeyWidth(**int** monkeyWidth) {

MonkeyWidth = monkeyWidth;

}

**public** **int** getMonkeyHeight() {

**return** MonkeyHeight;

}

**public** **void** setMonkeyHeight(**int** monkeyHeight) {

MonkeyHeight = monkeyHeight;

}

**public** **void** keyReleased(KeyEvent e) {

// **TODO** Auto-generated method stub

Currentstate = Currentstate.KeyReleased(e,**this**);

}

**public** **void** keyPressed(KeyEvent e) {

Currentstate = Currentstate.keyPressed(e,**this**);

}

}