Set this.currentPlayer to play

Set this.currentProperty to prop

Set this.plArray to playArr

Set this.prArray to propArr

Initialise match1 to null

Initialise match2 to null

Initialise group to currentProperty.getGroup

If group is equal to 11 or group is equal to 10 or group is equal to 9

Call method setTitle with "Improvements"

Call method setSize with 200, 250

Call method setLocation with 255, 290

Call method setDefaultCloseOperation with DISPOSE\_ON\_CLOSE

Call method setVisible with true

Call method setLayout

Create new JPanel

Call method front.setLayout

Call method add with front, BorderLayout.CENTER

Set statustxt to "You cannot purchase villas or pantheons on this property"

Set button1 to "<u>C</u>lose"

Create new JButton

Create new JLabel

Call method close.setBackground

Call method front.add with status

Call method front.add with close

Call method status.setBounds with 20, 0, 150...

Call method close.setBounds with 20, 60, 150...

Call method close.addActionListener

Call method repaint

Else

For k is 0, k is less than propArr.length, k increments by 1

If position k in propArr is not equal to currentProperty

If position k in propArr

Set match1 to position k in propArr

Set this.m1 to match1

Initialise j to k

If position j in propArr

Set match2 to position j in propArr

Set this.m2 to match2

EndIf

EndIf

EndIf

EndFor

EndIf

Initialise totalGroup to checkGroup with currentProperty, propArr

If totalGroup is equal to true

If currentProperty.getPantheons is greater than 0

Call method setTitle with "Improvements"

Call method setSize with 200, 250

Call method setLocation with 255, 290

Call method setDefaultCloseOperation with DISPOSE\_ON\_CLOSE

Call method setVisible with true

Call method setLayout

Create new JPanel

Call method front.setLayout

Call method add with front, BorderLayout.CENTER

Set statustxt to "You already have a Pantheon on these properties, you cannot improve them anymore"

Set button1 to "<u>C</u>lose"

Create new JButton

Create new JLabel

Call method close.setBackground

Call method front.add with status

Call method front.add with close

Call method status.setBounds with 20, 0, 150...

Call method close.setBounds with 20, 60, 150...

Call method close.addActionListener

Call method repaint

Else if group is equal to 1 or group is equal to 2

Initialise houseCost to 50

If group is equal to 1

If currentPlayer.getBalance is greater than ( houseCost multiplied by 2 )

If currentProperty.getVillas is greater than 3

Call method currentProperty.setVillas with 0

Call method m1.setVillas with 0

Call method currentProperty.setPantheons with 1

Call method m1.setPantheons with 1

Initialise newBalance to currentPlayer.getBalance minus ( houseCost multiplied by 2 )

Call method currentPlayer.setBalance with newBalance

Call method dispose

Else

Initialise addVilla to currentProperty.getVillas plus 1

Call method currentProperty.setVillas with addVilla

Call method m1.setVillas with addVilla

Initialise newBalance to currentPlayer.getBalance minus ( houseCost multiplied by 2 )

Call method currentPlayer.setBalance with newBalance

Call method dispose

EndIf

Call method status.repaint

EndIf

If currentPlayer.getBalance is greater than ( houseCost multiplied by 3 )

If currentProperty.getVillas is greater than 3

Call method currentProperty.setVillas with 0

Call method m1.setVillas with 0

Call method m2.setVillas with 0

Call method currentProperty.setPantheons with 1

Call method m1.setPantheons with 1

Call method m2.setPantheons with 1

Initialise newBalance to currentPlayer.getBalance minus ( houseCost multiplied by 3 )

Call method currentPlayer.setBalance with newBalance

Call method dispose

Else

Initialise addVilla to currentProperty.getVillas plus 1

Call method currentProperty.setVillas with addVilla

Call method m1.setVillas with addVilla

Call method m2.setMortgaged with addVilla

Initialise newBalance to currentPlayer.getBalance minus ( houseCost multiplied by 3 )

Call method currentPlayer.setBalance with newBalance

Call method dispose

EndIf

Call method status.repaint

EndIf

Else

Set statustxt to "You do not have enough money to buy these villas/pantheon"

EndIf

EndIf

If group is equal to 3 or group is equal to 4

Initialise houseCost to 100

If currentPlayer.getBalance is greater than ( houseCost multiplied by 3 )

If currentProperty.getVillas is greater than 3

Call method currentProperty.setVillas with 0

Call method m1.setVillas with 0

Call method m2.setVillas with 0

Call method currentProperty.setPantheons with 1

Call method m1.setPantheons with 1

Call method m2.setPantheons with 1

Initialise newBalance to currentPlayer.getBalance minus ( houseCost multiplied by 3 )

Call method currentPlayer.setBalance with newBalance

Call method dispose

Else

Initialise addVilla to currentProperty.getVillas plus 1

Call method currentProperty.setVillas with addVilla

Call method m1.setVillas with addVilla

Call method m2.setMortgaged with addVilla

Initialise newBalance to currentPlayer.getBalance minus ( houseCost multiplied by 3 )

Call method currentPlayer.setBalance with newBalance

Call method dispose

EndIf

Call method status.repaint

Else

Set statustxt to "You do not have enough money to buy these villas/pantheon"

fix

EndIf

Else if group is equal to 5 or group is equal to 6

Initialise houseCost to 150

If currentPlayer.getBalance is greater than ( houseCost multiplied by 3 )

If currentProperty.getVillas is greater than 3

Call method currentProperty.setVillas with 0

Call method m1.setVillas with 0

Call method m2.setVillas with 0

Call method currentProperty.setPantheons with 1

Call method m1.setPantheons with 1

Call method m2.setPantheons with 1

Initialise newBalance to currentPlayer.getBalance minus ( houseCost multiplied by 3 )

Call method currentPlayer.setBalance with newBalance

Call method dispose

Else

Initialise addVilla to currentProperty.getVillas plus 1

Call method currentProperty.setVillas with addVilla

Call method m1.setVillas with addVilla

Call method m2.setMortgaged with addVilla

Initialise newBalance to currentPlayer.getBalance minus ( houseCost multiplied by 3 )

Call method currentPlayer.setBalance with newBalance

Call method dispose

EndIf

Call method status.repaint

Else

Set statustxt to "You do not have enough money to buy these villas/pantheon"

fix

EndIf

Else if group is equal to 7 or group is equal to 8

Initialise houseCost to 200

If group is equal to 7

If currentProperty.getVillas is greater than 3

Call method currentProperty.setVillas with 0

Call method m1.setVillas with 0

Call method m2.setVillas with 0

Call method currentProperty.setPantheons with 1

Call method m1.setPantheons with 1

Call method m2.setPantheons with 1

Initialise newBalance to currentPlayer.getBalance minus ( houseCost multiplied by 3 )

Call method currentPlayer.setBalance with newBalance

Call method dispose

Else

Initialise addVilla to currentProperty.getVillas plus 1

Call method currentProperty.setVillas with addVilla

Call method m1.setVillas with addVilla

Call method m2.setMortgaged with addVilla

Initialise newBalance to currentPlayer.getBalance minus ( houseCost multiplied by 3 )

Call method currentPlayer.setBalance with newBalance

Call method dispose

EndIf

Call method status.repaint

EndIf

If group is equal to 8

If currentPlayer.getBalance is greater than ( houseCost multiplied by 2 )

If currentProperty.getVillas is greater than 3

Call method currentProperty.setVillas with 0

Call method m1.setVillas with 0

Call method m2.setVillas with 0

Call method currentProperty.setPantheons with 1

Call method m1.setPantheons with 1

Call method m2.setPantheons with 1

Initialise newBalance to currentPlayer.getBalance minus ( houseCost multiplied by 3 )

Call method currentPlayer.setBalance with newBalance

Call method dispose

Else

Initialise addVilla to currentProperty.getVillas plus 1

Call method currentProperty.setVillas with addVilla

Call method m1.setVillas with addVilla

Call method m2.setMortgaged with addVilla

Initialise newBalance to currentPlayer.getBalance minus ( houseCost multiplied by 2 )

Call method currentPlayer.setBalance with newBalance

Call method dispose

EndIf

Call method status.repaint

Else

Set statustxt to "You do not have enough money to buy these villas/pantheon"

fix

EndIf

EndIf

EndIf

EndIf

Initialise propertyGroup to prop.getGroup

Initialise owner to prop.getOwner

Properties test1;

Properties test2;

Initialise returnValue to false

If propertyGroup is equal to 1 or propertyGroup is equal to 8

For i is 0, i is less than arr.length, i increments by 1

Set test1 to position i in arr

If owner is equal to test1.getOwner and propertyGroup is equal to test1.getGroup

Set returnValue to true

EndIf

EndFor

Else

For j is 0, j is less than arr.length, j increments by 1

Set test1 to position j in arr

If owner is equal to test1.getOwner and propertyGroup is equal to test1.getGroup

For k is j, k is less than arr.length, k increments by 1

Set test2 to position k in arr

If owner is equal to test2.getOwner and propertyGroup is equal to test2.getGroup

Set returnValue to true

Else

Set returnValue to false

EndIf

EndFor

Else

;

EndIf

EndFor

EndIf

Call method status.repaint

Return returnValue

If e.getSource is equal to close

Call method dispose