```
turtles-own[
                                    set payoff 0
 insured?
                                    set insured? false
 checked?
                                    set checked? false
                                    set color red
 numberofedges
 pavoff
                                     if (random-float 100.0
                                  <(prob-insured))[
globalsí
 numberofinsued
                                     set color green
 numberofnotinsured
                                     set insured? true
 donewithinsured?
                                     set numberofinsued
 donewithnotinsured?
                                  (numberofinsued + 1)
 1
to setup
 clear-all
                                   :ask turtles [ set label
 setup-turtles
                                  who set label-color
                                  black1
 reset-ticks
 set numberofinsued 0
 set donewithinsured?
                                  end
false
 set
                                  to setup-patches
donewithnotinsured?
                                  ask patches [
false
                                   set pcolor white
                                   1
 setup-patches
end
                                  end
to setup-turtles
                                  to go
 set-default-shape
                                    if not
turtles "circle"
                                  donewithinsured? [
                                    add-edge
 crt num-nodes
                                   1
 layout-circle turtles
                                   tick
max-pxcor - 20
                                  end
 ask turtles [
```

```
to add-edge
                                        :node2 and node1
let node1 one-of turtles
                                  insured
with[not checked?]
                                        let newpayoff1
if node1 = nobody
                                  (nolinkpayoff + (beta /
                                  100) - (insurancelink /
 display
                                  100 ))
 user-message "insured
                                        let newpayoff2
clique finished"
                                  (nolinkpayoff2 + (beta /
 stop
                                  100) - (insurancelink /
 1
                                  100 ))
 ask node1[
                                        if newpayoff1 >
  let node2 one-of
                                  nolinkpayoff and
turtles with [not link-
                                  newpayoff2 >
neighbor? node1 and
                                  nolinkpayoff2
(self != node1) and not
checked?1
                                         :add link
                                         create-link-with
  ifelse node2 = nobody
                                  node1
                                         set payoff
   set checked? true
                                  newpayoff2
   add-edge
                                         ask node1[
                                          set payoff
 ſ
                                  newpayoff1
  let nolinkpayoff payoff
  ifelse insured?
                                         ]
    ;node1 is insured
                                        ;done with adding
   ask node2
                                  link
     let nolinkpayoff2
                                       [;begin else
payoff
                                        ;node2 not insured
     ifelse insured?
                                        let newpayoff1
     ſ
                                  (nolinkpayoff + (beta /
```

```
100) - (risk / 100) -
(insurancelink / 100 ))
                                        :node2 insured
      let newpayoff2
                                  and node1 not insured
(nolinkpayoff2 + (beta /
                                        let newpayoff1
100))
                                  (nolinkpayoff + (beta /
      if newpayoff1 >
                                  100))
nolinkpayoff and
                                        let newpayoff2
newpayoff2 >
                                  (nolinkpayoff2 + (beta /
nolinkpayoff2
                                  100) - (risk / 100) -
                                  (insurancelink / 100 ))
                                        if newpayoff1 >
       :add link
       create-link-with
                                  nolinkpayoff and
                                  newpayoff2 >
node1
       set payoff
                                  nolinkpayoff2
newpayoff2
       ask node1[
                                         :add link
        set payoff
                                         create-link-with
newpayoff1
                                  node1
                                         set payoff
                                  newpayoff2
      ;done with adding
                                         ask node1[
link
                                          set payoff
                                  newpayoff1
      1:end else
   1;done with node2
                                         ]
   1
                                        ;done with adding
    :node1 not insured
                                  link
    ask node2
                                       [;begin else
    ſ
     let nolinkpayoff2
                                        ;node2 and node1
                                  not insured
payoff
```

ifelse insured?

let newpayoff1	end
(nolinkpayoff + (beta /	
100) - (risk / 100))	to add-edge-not-insured
let newpayoff2	let node1 one-of turtles
(nolinkpayoff2 + (beta /	with[not insured? and
100) - (risk / 100))	not checked?]
if newpayoff1 >	if node1 = nobody
nolinkpayoff and	, i
newpayoff2 >	;display
nolinkpayoff2	;user-message "non-
[	insured clique finished"
;add link	stop
create-link-with	]
node1	ask node1[
set payoff	let node2 one-of
newpayoff2	turtles with [not
ask node1[	insured? and not link-
set payoff	neighbor? node1 and
newpayoff1	(self!= node1) and not
1	checked?]
. J 1	•
	ifelse node2 = nobody
;done with adding	l
link	display
	set
];end else	donewithnotinsured?
];done with node2	true
	set checked? true
]	add-edge-not-insured
;set color green	]
;add-edge	[
]	create-link-with node2
]	add-edge-not-insured
lavout	1

```
layout

end

to layout

repeat 10 [
 layout-spring (turtles with [any? link-neighbors]) links 0.4 6 1
 display ;; so we get smooth animation
]
end
```