Happy holiday! Remember to take care of yourself and your loved ones!

```
jump (generic function with 1 method)
```

```
function jump()
    return rand((-1, +1))
end
```

```
bernoulli (generic function with 1 method)
```

```
bernoulli(p) = rand()<p
```

```
0
```

```
-bernoulli(0.25)
```

```
[-1, -1, 1, 1, 1, -1, 1, -1, 1, -1]
```

```
[jump() for i in 1:10]
```

```
walk (generic function with 1 method)
```

```
function walk(n)
    x=0

    for i in 1:n
        x+=jump()          #x=x+jump()
    end

    return x
end
```

```
-6
```

```
walk(20)
```

```
trajectory (generic function with 1 method)
```

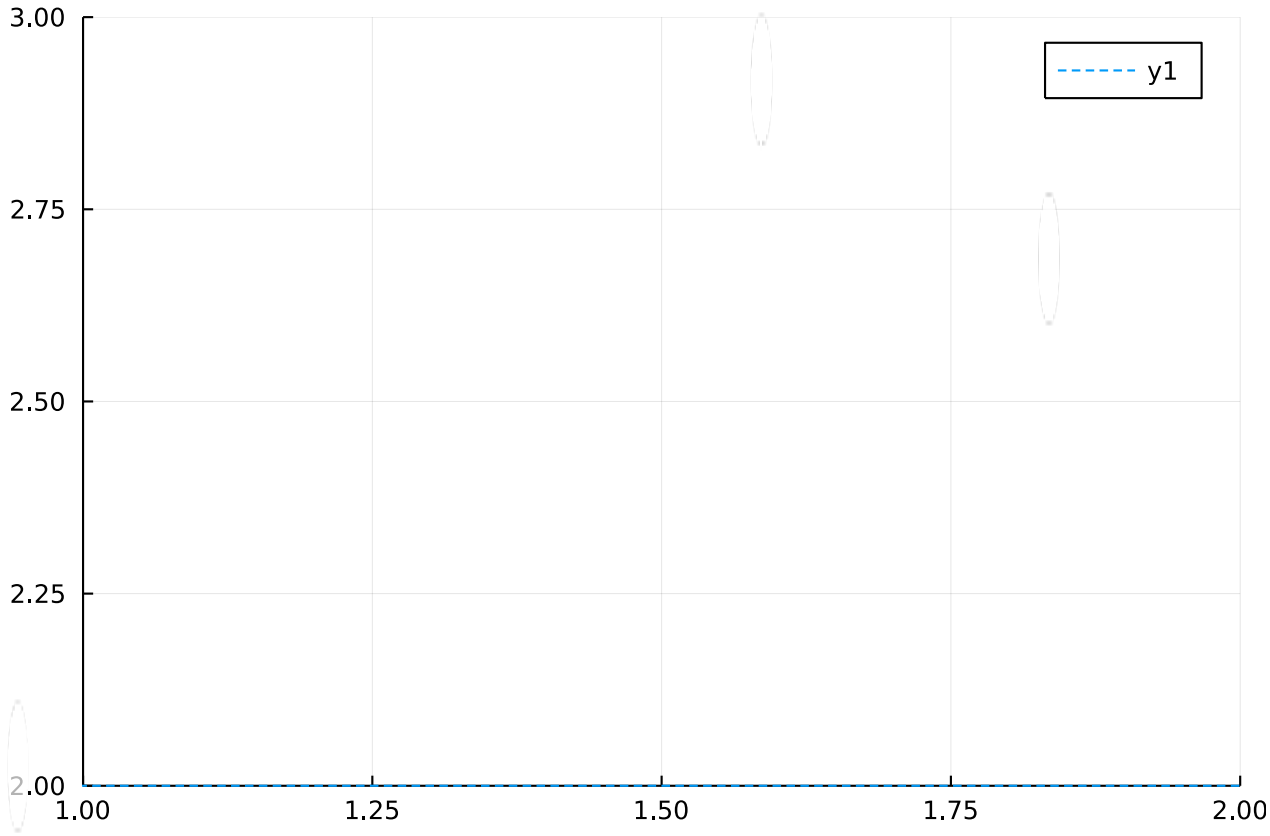
```
function trajectory(n)
    x=0
    xs=[x]

    for i in 1:n
        x+= jump() #x= x+jump()

        push!(xs, x)
    end

    return xs
end
```

```
[0, 1, 2, 1, 2, 1, 2, 3, 4, 3, 4, 3, 4, 3, 2, 1, 2, 1, 0, -1,    more ,15, 16, 15, 16, 1
```

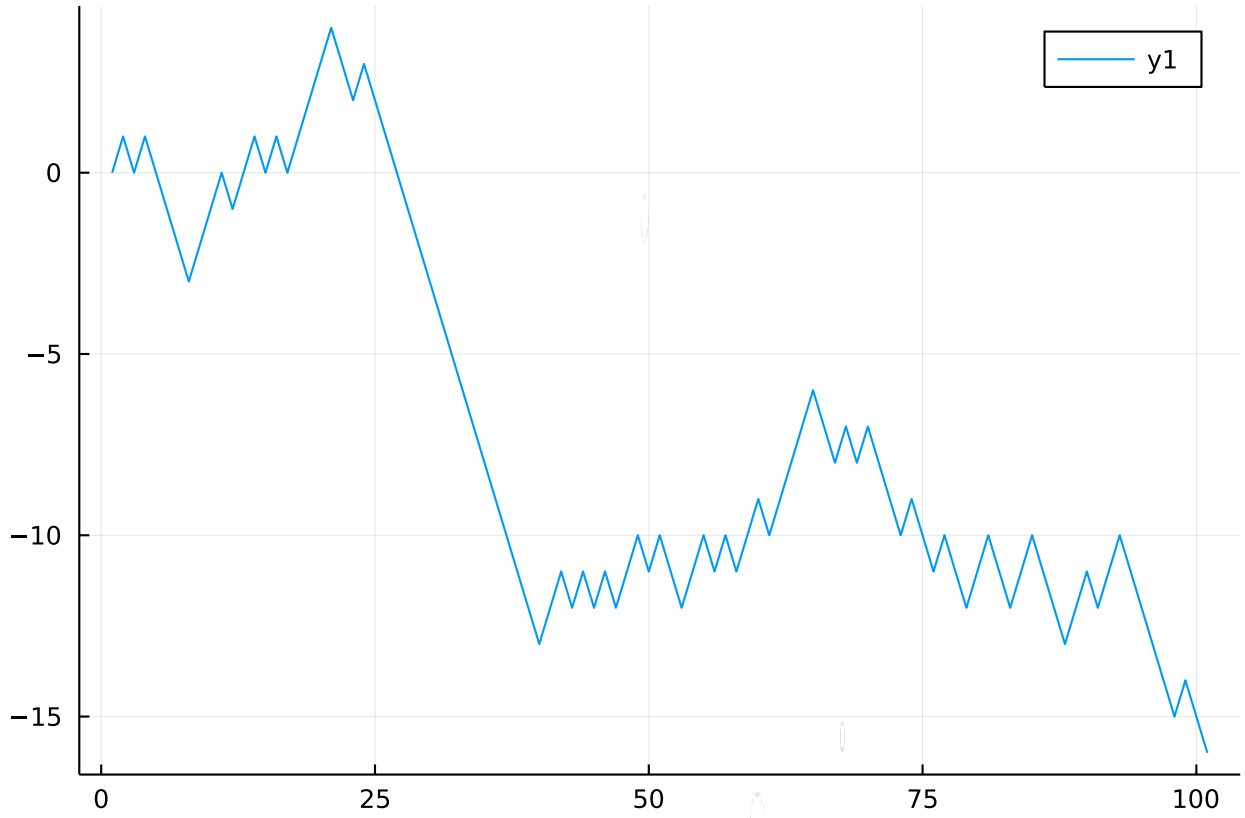
```
trajectory(100)
```

```
traj = trajectory(100);
```

```
using Plots
```




```
hline!([2], ls=:dash)
```




```
plot(traj)
```

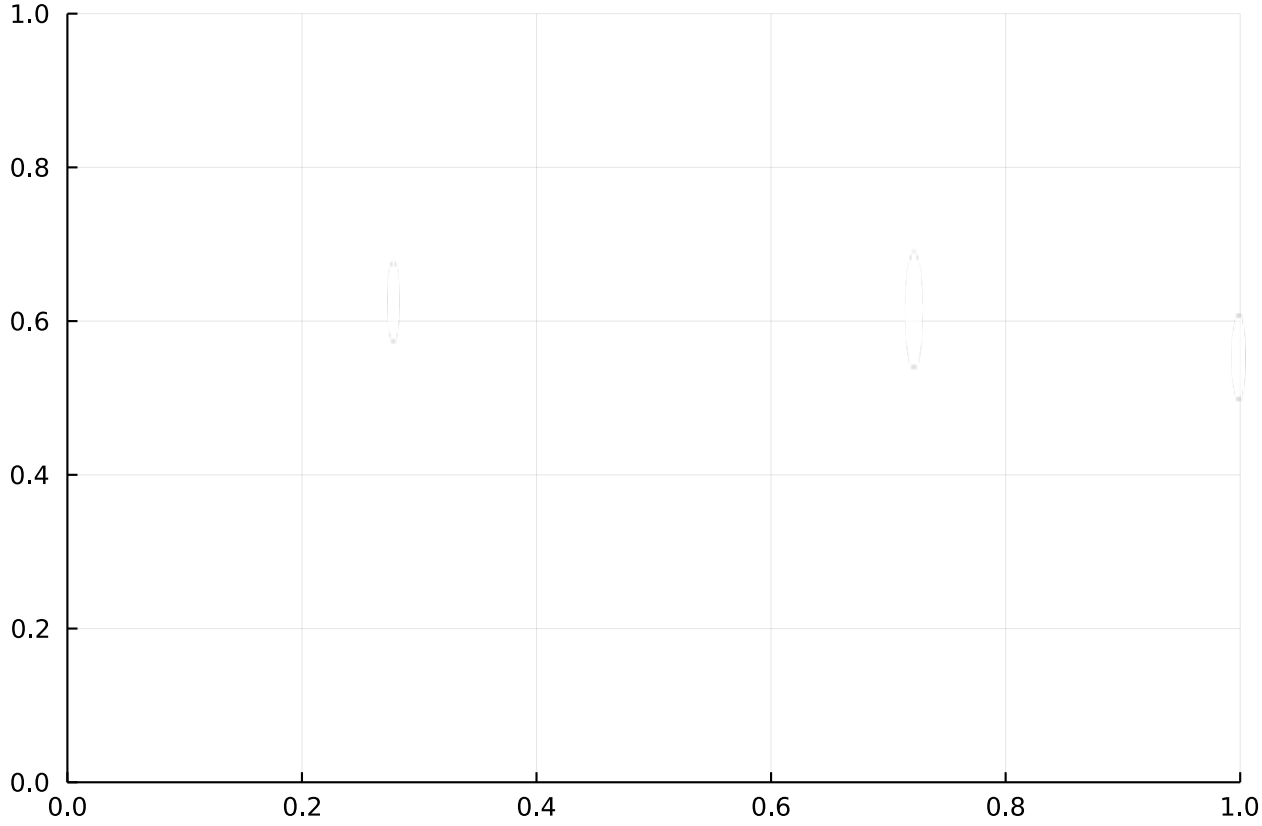
```
num_trajs = 10
```

```
num_trajs =10
```

```
num_steps = 100
```

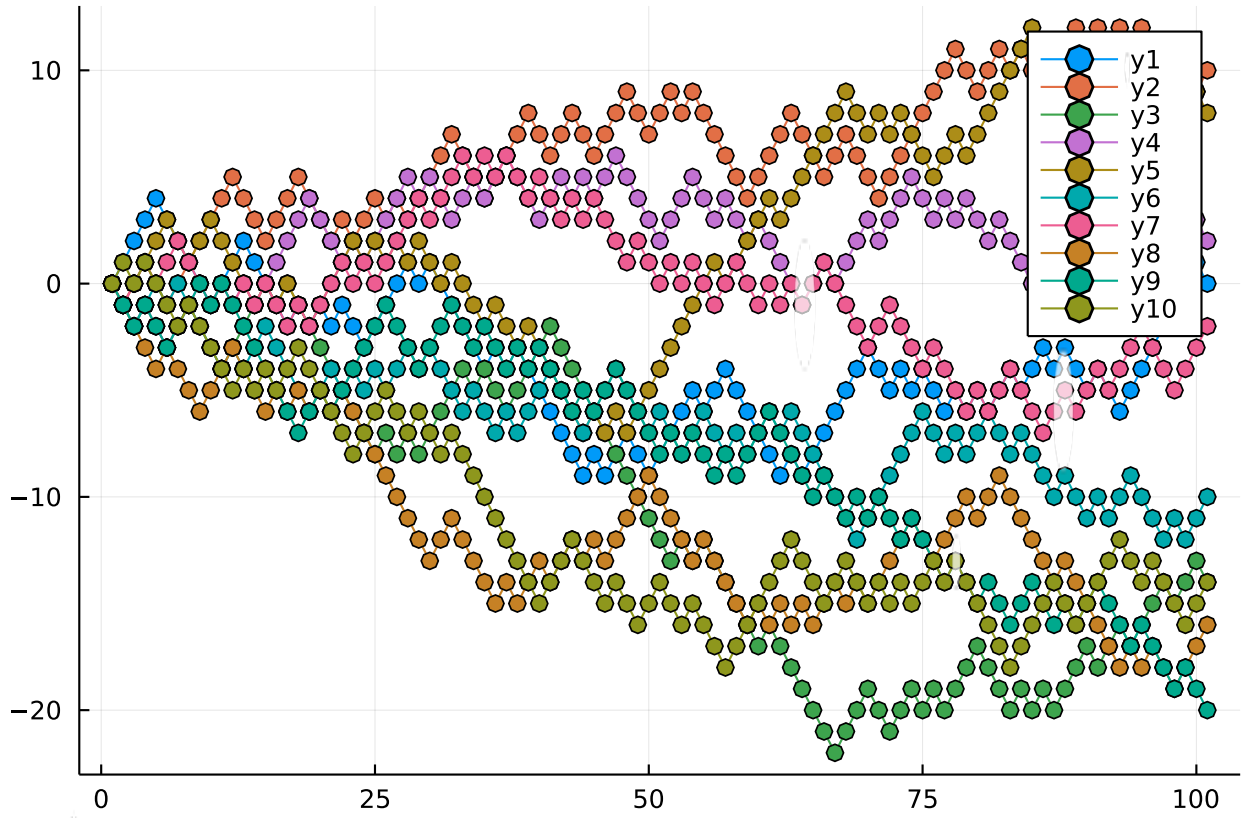
```
num_steps =100
```

p =




```
p= plot()
```

```
for i in 1:num_trajs
    traj = trajectory(num_steps)
    plot!(traj, m=:o)
end
```




```
p
```

```
n = 20
```

```
n=20
```

```
traj1 =
 [0, -1, -2, -3, -4, -3, -2, -1, 0, -1, -2, -1, -2, -3, -2, -1, 0, 1, 0, -1, -2]
```

```
traj1=trajectory(n)
```

```
using Interact
```

```
using WebIO
```

```
@manipulate for i in slider(1:n, value =1)
    plot(traj1[1:i])
end
```

```
traj_1 =  [0, -1, 0, -1, 0, -1, 0, 1, 2, 3, 2, 1, 0, -1, 0, -1, 0, 1, 2, 1, 0]
```

```
traj_1 = trajectory(n)
```

```
traj_2 =  [0, -1, 0, 1, 2, 1, 0, -1, 0, -1, 0, 1, 0, 1, 0, -1, -2, -3, -4, -3, -4]
```

```
traj_2 = trajectory(n)
```

```
traj_3 =  [0, 1, 2, 3, 2, 1, 2, 1, 0, -1, 0, -1, -2, -3, -4, -3, -4, -5, -6, -7, -6]
```

```
traj_3 = trajectory(n)
```

```
traj2 =  [[0, 1, 0, 1, 0, -1, -2, -3, -2,  more ,-6]]
```

```
traj2=[trajectory(n)]
```

```
[0, 1, 0, 1, 0, -1, -2, -3, -2, -3, -4, -5, -4, -5, -4, -5, -6, -5, -6, -5, -6]
```

```
traj2[1]
```

```
Enter cell code...
```