

```
In[20]:= rsubset[m_, n_] := RandomSample[Range[m], n]
```

```
In[21]:= rsubset[6, 3]
```

```
Out[21]= {3, 1, 4}
```

```
In[22]:= rhypgeom[m_, r_, n_] := Map[(If[# > r, 0, 1]) &, rsubset[m, n]]
```

```
In[23]:= rhypgeom[15, 5, 10]
```

```
Out[23]= {1, 0, 0, 1, 0, 1, 0, 1, 1, 0}
```

```
In[58]:= maxconsecutive[x_] := Module[{curmax = 1, max = 1},  
  For[i = 1, i < Length[x], i++,  
    If[x[[i]] + 1 == x[[i + 1]], curmax++, If[curmax > max, max = curmax, Indeterminate];  
    curmax = 1  
  ]  
  ];  
  Return[Max[{curmax, max}]]  
]
```

```
In[57]:= maxconsecutive[{1, 1, 2, 2, 4, 5, 1, 8}]
```

```
Out[57]= 2
```

```
In[74]:= res = Map[maxconsecutive[#] &, Table[rsubset[30, 15], {10 000}]];  
Manipulate[ListPlot[BinCounts[res[[1 ;; s]]] / s,  
  Filling -> Axis, PlotRange -> {0, 1}, PlotStyle -> PointSize[Large]],  
{s, 1, 10 000, 1}]
```

```
Out[74]=
```

