Temporal Memory Example - Sine and Sawtooth

Configuration

```
Get[ $UserBaseDirectory <> "/TriadicMemory/triadicmemoryC.m"]
Get[ $UserBaseDirectory <> "/TriadicMemory/temporalmemory.m"]
Get[ $UserBaseDirectory <> "/TriadicMemory/encoders.m"]
```

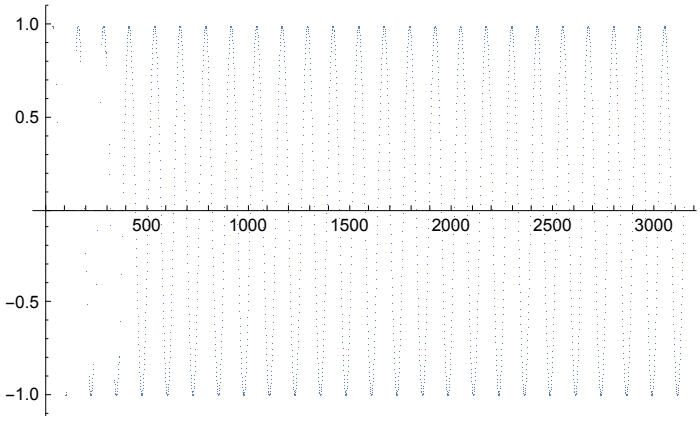
```
n = 1000; p = 5;
```

```
TemporalMemory[ T, {n, p}];
```

```
predict[x_] := SDR2Real[T[Real2SDR[x, {-1, 1}, {n, p}]], {-1, 1}, {n, p}]
```

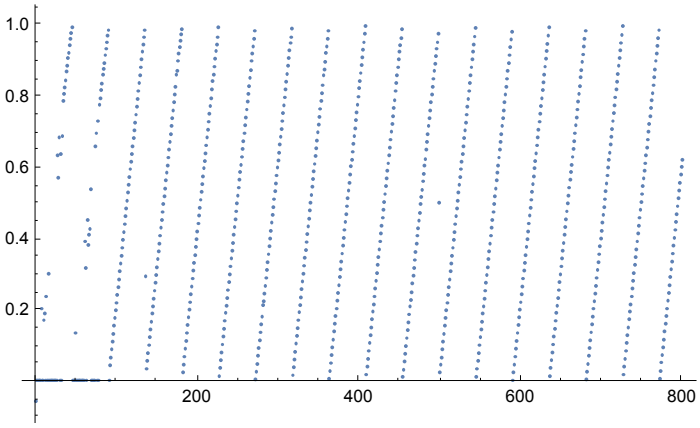
1. Learning a sine wave

```
ListPlot[predict /@ Table[ Sin[x], {x, 0, 50 Pi, 0.05}]]
```



2. Learning a sawtooth wave

```
ListPlot[predict /@ Table[ SawtoothWave[0.22 x], {x, 0, 80, 0.1}]]
```



3. Auto-playing

Starting from point -0.6, feeding each prediction back as input for the next step

```
NestList[ predict, -0.6, 1000] // ListPlot
```