

```

1 local R=require
2 local nbl,bin,lib = R"learn10!", R"bin", R"lib"
3 local collect,push = lib.collect,lib.push
4
5 return function(data, log)
6   local tmp, xnums = {}
7   local function discretize(c,x, col)
8     if x ~= "?" then
9       col = xnums[c]
10      if col then
11        for _,one in pairs(col.bins) do
12          if one.lo <= x and x < one.hi then return one.id end end end end
13      return x end
14
15 local function xnum(c,name)
16   if ako.xnum(name) then return {name=name, xys={},bins={}} end end
17
18 local function train(c,x,row)
19   if xnums[c] and x ~= "?" then push(xnums[c].xys, {x=x,y= row[#row]}) end end
20
21 for row in items(data) do
22   push(tmp,row)
23   if xnums then collect(row, function(c,x) return train(c,x,row) end)
24   else xnums = collect(row,xnum) end end
25 for where,col in pairs(xnums) do
26   col.bins = bin.Xys(col.xys,where); print(col.name,#col.bins) end
27 for j=2,#tmp do tmp[j] = collect(tmp[j], discretize) end
28 return nbl(tmp) end

```