# Polinomio de Taylor

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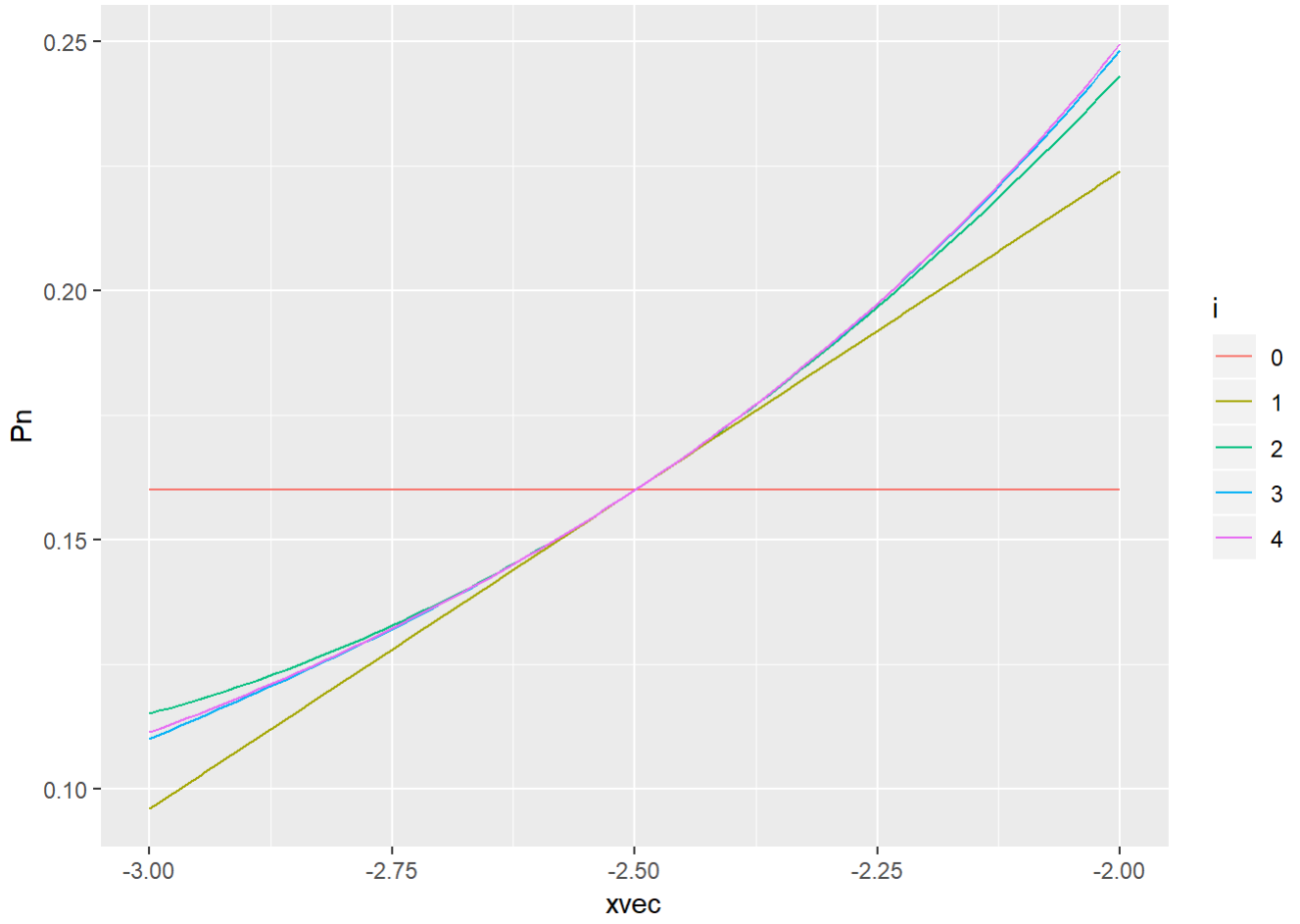
```
funObjetivo<-function(x){
  1/(x^2) #x^-2
}

Pn<-function(fun, x, x0, n){

  h<-x-x0
  Pn<-fun(x0)
  if(n>0){
    for (i in seq(1,n)){
      iesimaDer<-fun
      for (j in seq(1,i)){
      iesimaDer<-Deriv(iesimaDer)
      }
    Pn<-Pn+iesimaDer(x0)*(h^i)/factorial(i)

    }
  }
  return(Pn)
}


fun1<-function(x){
  -0.1*x^4-0.15*x^3-0.5*x^2-0.25*x+1.2
}


nvec<-seq(0,4)
xvec<-seq(-3,-2,.01)
x0=-2.5

Data<-NULL
for (i in nvec){

Data<-rbind(Data,data.frame(xvec,Pn=Pn(funObjetivo,xvec,x0,i), i))

}
Data$i=as.factor(Data$i)
ggplot(Data, aes(x=xvec, y=Pn))+geom_line(aes(color=i))
```


0.25
0.20
0.15
0.10
Pn
-3.00
-2.75
-2.50
-2.25
-2.00
xvec
i
0
1
2
3
4