x<- c(2,2,3,3,4,5,7,11,15,19,24,29)

primegen=function(v){

return(sapply(v,function(z){sum(z/1:z==z%/%1:z)})==2)

}

primelist <- (x)[primegen(x)]

primelist

[1] 2 2 3 3 5 7 11 19 29

length(which(primelist<30))

[1] 9