

AoC Day 2

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Source

The source data, are not all the same length so we use 'fill=TRUE'.

```
tmp <- tmp0 <- read.table("~/AoC_2024/day_02/test_data.txt", fill= TRUE)
# tmp

dat <- read.table("~/AoC_2024/day_02/source_02.txt", fill = TRUE)
# head(dat)
```

Process each report, *rep*, for monotonicity and amplitude, but first remove the trailing NAs

```
tmp <- dat
safe <- 0
nobs <- length(tmp[,1])

for(ii in 1:nobs){
  rep <- tmp[ii,]
  idx <- !is.na(rep)
  rep <- rep[idx]
  n <- length(rep)
  out <- numeric(n-1)
  for(jj in 1:(n - 1)){
    out[jj] <- (rep[jj] - rep[jj+1])
    out <- unlist(out)
  }
  # print(out)
  safe = safe + ((all(out>0) | all(out<0)) & all(abs(out)<4))
}
safe
```

```
## [1] 269
```

The Problem Dampener

allows one element of the report *rep* to fail

create function to check a line

```
check <- function(rep){  
  n <- length(rep)  
  out <- numeric(n-1)  
  for(jj in 1:(n - 1)){  
    out[jj] <- (rep[jj] - rep[jj+1])  
    out <- unlist(out)  
  }  
  (all(out>0) | all(out<0)) & all(abs(out)<4)  
}
```

```
tmp <- dat
```

```
safe <- 0
```

```
nobs <- length(tmp[,1])
```

```
for(ii in 1:nobs){  
  # removes trailing NA  
  rep <- tmp[ii,]  
  idx <- !is.na(rep)  
  rep <- rep[idx]  
  for(kk in 1: length(rep)){  
    out <- check(rep[-kk])  
    if(out){  
      break  
    }  
  }  
}
```

```
  safe = safe + out  
}  
safe
```

```
## [1] 337
```