
Homework on Lists in PVS

Néstor Cataño

ncatano@puj.edu.co

Faculty of Engineering
Pontificia Universidad Javeriana

A Phone Book Example Using Lists

```
list [T: type]: datatype
```

```
  begin
```

```
    null: null?
```

```
    cons (car: T, cdr:list):cons?
```

```
  end list
```

```
add_list(b:B, l:list[[N,P]]): recursive B =
```

```
  cases l of
```

```
    null: b,
```

```
    cons(head, rest): add_list(addphone(b,proj_1(head),proj_2(head)),rest)
```

```
  endcases
```

```
measure length(l)
```

Homework

- Specify a phone book using lists
- `list` is defined in PVS' prelude as a **datatype**
`M-x view-prelude-file`
- Model `addphone`, `delphone`, `findphone`
- Prove `find_add`, `find_change`, and `add_change` as before
- Discharge (prove) all the **TCCs** generated by your specification