PCPF Lab
Lab Assignment number 04

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Aim: To execute the following on the prelude command prompt

Problem Statement:

1. Converts temperatures in C to F
2. Use map to convert a string into a list of Booleans, each element in the new list representing whether or not the original element was a lower-case character, that is, it should take the string aBCde and return [True,False,False,True,True].
3. Find factorial of number
4. Display square of numbers given in list

Solution:

Converts temperatures in C to F

```
convert :: Float->Float
convert n = (n*(9/5.0))+32
```

```
Prelude> convert n = (n*(9/5.0))+32
Prelude> convert 30
86.0
Prelude> convert 58
136.4
Prelude>
```

Use map to convert a string into a list of Booleans, each element in the new list representing whether or not the original element was a lower-case character, that is, it should take the string aBCde and return [True,False,False,True,True].

```
import Data.Char
convert x  = map(\x -> isLower x) x
```

```
Prelude> import Data.Char
Prelude Data.Char> convert x  = map(\x -> isLower x) x
Prelude Data.Char> convert "aAbB"
[True,False,True,False]
Prelude Data.Char> convert "AAbb"
[False,False,True,True]
Prelude Data.Char>
```

Find factorial of number

```
fac :: (Integral a) => a -> a
fac n = product [1..n]
```

```
Prelude> fac n = product [1..n]
Prelude> fac 5
120
Prelude> fac 4
24
Prelude>
```

Display square of numbers given in list

square x = map(^2) x

```
Prelude> square x = map(^2) x
Prelude> square [0,2,3]
[0,4,9]
Prelude> square [5, 8, 2]
[25,64,4]
Prelude>
```