```
(+), (*), (-) :: Num a => a -> a
(/) :: Fractional a => a -> a -> a
div, mod :: Integral a => a -> a -> a
                 13 'div' 5 = 2
(^) :: (Num a, Integral b) => a -> b -> a
even, odd :: Integral a => a -> Bool
(<), (<=), (>), (>=) :: Ord a => a -> a -> Bool
(==), (/=) :: Eq a => a -> a -> Bool
(&&), (||) :: Bool → Bool → Bool
not :: Bool -> Bool
max, min :: Ord a => a -> a -> a
\max \ 3 \ 7 = 7
             min 3 7 = 3
round :: (RealFrac a, Integral b) => a -> b
fromIntegral :: (Integral a, Num b) => a -> b
round 2.3 = 2
                fromIntegral(length [1,2]) + 3.2 = 5.2
To use the following functions:
                                  import Data.Char
isAlpha, isLower, isUpper, isDigit :: Char -> Bool
                     isAlpha '3' = False
isAlpha 'a' = True
isLower 'a' = True
                     isLower 'A' = False
toLower, toUpper :: Char -> Char
toLower 'A' = 'a'
                     toUpper 'a' = 'A'
digitToInt :: Char -> Int
intToDigit :: Int -> Char
digitToInt '3' = 3
                     intToDigit 3 = '3'
```

Figure 1: Some functions on basic data

```
sum, product :: (Num a) => [a] -> a
                                              and, or :: [Bool] -> Bool
sum [1.0,2.0,3.0] = 6.0
                                              and [True, False, True] = False
product [1,2,3,4] = 24
                                              or [True, False, True] = True
maximum, minimum :: (Ord a) \Rightarrow [a] \rightarrow a
                                              reverse :: [a] -> [a]
maximum [3,1,4,2] = 4
                                              reverse "goodbye" = "eybdoog"
minimum [3,1,4,2] = 1
concat :: [[a]] -> [a]
                                              (++) :: [a] -> [a] -> [a]
                                              "good" ++ "bye" = "goodbye"
concat ["go","od","bye"] = "goodbye"
(!!) :: [a] -> Int -> a
                                              length :: [a] -> Int
[9,7,5] !! 1 = 7
                                              length [9,7,5] = 3
head :: [a] -> a
                                              tail :: [a] -> [a]
head "goodbye" = 'g'
                                              tail "goodbye" = "oodbye"
init :: [a] -> [a]
                                              last :: [a] -> a
init "goodbye" = "goodby"
                                              last "goodbye" = 'e'
takeWhile :: (a->Bool) -> [a] -> [a]
                                              take :: Int -> [a] -> [a]
takeWhile isLower "goodBye" = "good"
                                              take 4 "goodbye" = "good"
dropWhile :: (a->Bool) -> [a] -> [a]
                                              drop :: Int -> [a] -> [a]
dropWhile isLower "goodBye" = "Bye"
                                              drop 4 "goodbye" = "bye"
elem :: (Eq a) => a -> [a] -> Bool
                                              replicate :: Int -> a -> [a]
                                              replicate 5 '*' = "****"
elem 'd' "goodbye" = True
zip :: [a] -> [b] -> [(a,b)]
zip [1,2,3,4] [1,4,9] = [(1,1),(2,4),(3,9)]
To use the following function: import Data.List
isPrefixOf :: Eq a \Rightarrow [a] \rightarrow [a] \rightarrow Bool
isPrefixOf "abc" "abcde" = True
```

Figure 2: Some functions on lists