NOTE: these operations were all performed in sequence in a single GHCI session

Here is the program being compiled

```
ghci> :l PA2.hs
[1 of 1] Compiling PA2              ( PA2.hs, interpreted )
Ok, one module loaded.
ghci>
```

Here is the currency data

```
ghci> a = (USD 1)
ghci> show a
"USD 1.0"
ghci> b = (INR 100)
ghci> show b
"INR 100.0"
```

Here is the conversion functionality

```
ghci> aINR = convertToINR a
ghci> show aINR
"INR 82.0"
ghci> bUSD = convertToUSD b
ghci> show bUSD
"USD 1.2"
ghci>
```

Here is the creation of a tree with 5 nodes

```
ghci> :l PA2.hs
[1 of 1] Compiling PA2              ( PA2.hs, interpreted )
Ok, one module loaded.
ghci> t0 = Empty
ghci> t1 = insertBST t0 (USD 10)
ghci> t2 = insertBST t1 (INR 50)
ghci> t3 = insertBST t2 (USD 1000)
ghci> t4 = insertBST t3 (INR 1)
ghci> t5 = insertBST t4 (INR 50000)
ghci>
```

Here is the show operator and other print functions (the show is just in order print)

```
ghci> show t5
" INR 1.0  INR 50.0  USD 10.0  INR 50000.0  USD 1000.0 "
ghci> inOrderPrint t5
" INR 1.0  INR 50.0  USD 10.0  INR 50000.0  USD 1000.0 "
ghci> reverseOrderPrint t5
" USD 1000.0  INR 50000.0  USD 10.0  INR 50.0  INR 1.0 "
ghci> structuredPrint t5
"<(USD 10.0), (<(INR 50.0), (<(INR 1.0), (Empty), (Empty)>), (Empty)>), (<(USD 1000.0), (<(INR 50000.0), (Empt
y), (Empty)>), (Empty)>)>"
ghci>
```

Here is the search functionality for the binary search tree

```
ghci> searchBST t5 (INR 1)
True
ghci> searchBST t5 (INR 42)
False
ghci> searchBST t5 (INR 50000)
True
ghci> searchBST t5 (USD 1000)
True
ghci> searchBST t5 (USD 1)
False
```

Here is the sum tree functions

```
ghci> sumAllUSD t5
USD 1610.612
ghci> sumAllINR t5
INR 132871.0
ghci>
```

Here is the convert tree functionality without fmap

```
ghci> t5' = convertAllUSD t5
ghci> show t5'
" USD 1.2e-2  USD 0.6  USD 10.0  USD 600.0  USD 1000.0 "
ghci> t5'' = convertAllINR t5'
ghci> show t5''
" INR 0.984  INR 49.199999999999996  INR 820.0  INR 49200.0  INR 82000.0 "
ghci>
```

Here is the convert tree functionality with fmap

```
ghci> t5'''' = convertAllUSDfmap t5
ghci> show t5''''
" USD 1.2e-2  USD 0.6  USD 10.0  USD 600.0  USD 1000.0 "
ghci> t5''''' = convertAllINRfmap t5
ghci> show t5'''''
" INR 1.0  INR 50.0  INR 820.0  INR 50000.0  INR 82000.0 "
ghci>
```