Elements of correction for the exercises of CS2101A Lab 2

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1   Exercise 1

```
function abs_value(x,y)
        abs(x-y)
      end
```

2   exercise 2

1.

```
function vectorsum(u,v)
        n=length(u)
        if length(v) != n
            error(" the input vectors must have the same length")
        end;
        [u[i] + v[i] for i=1:n]
      end
```

2.

```
function tensorsum(u,v)
       [x+y for x=u,y=v]
       end
```

3   exercise 3

```
function Bakhshali(n)
```

```
    N = n/2
    while N^2 < n
      N = N + 1
    end
    ## N = ifloor(sqrt(n)) + 1 or sqrt(n)
    d = n - N^2
    P = d/(2*N)
    A = N+P
    A - P^2/(2*A)
end



function Babylonian(n,precision)
      if n < 0
         error("the first argument must be non-negative")
      end
      if (precision < 0.0000000001) || (precision > 1)
         error("the second argu must be larger then 10^(-10) and
         less or equal to 1")
      end
      x = n/2
      while abs(x^2 - n) > precision
         x = 0.5(x+n/x)
      end
      return x
end
```