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Assignment 1

1.)
input (BinaryString, index)
output (numberOfOnes)

```
BinaryRecursion (BinaryString, index, numberOfOnes){

stringLength = BinaryString.length

if(stringLength < 1){

stringCharacter = charAtIndex (index)
index + 1
BinaryString = subString(index, stringLength)

if(stringCharacter equals "1"){
numberOfOnes + 1
}

BinaryRecursion (BinaryString, index, numberOfOnes)
}

else {
return numberOfOnes
}

}
```

2.)

a.)
[1 / (4^0)] + [1 / (4^1)] + [1 / (4^2)] + [1 / (4^3)] + ... +

[1 / 1] + [1 / 4] + [1 / 16] + [1 / 64] + ... +

Values approach but won't reach 2

b.)
[0 / (4^0)] + [1 / (4^1)] + [2 / (4^2)] + [3 / (4^3)] + ... +

[0 / 1] + [1 / 4] + [2 / 16] + [3 / 64] + ... +

Values approach but won't reach 1