README

Compilation Order

```
Mobius_Definition.v -> Mobius_Lemmas.v -> Mobius_Lemma2.v -> Mobius_Lemma3.v
-> Main.v
```

Main Proof Steps

- Theorem 10.11
  - To proof that moving summation constraint from outside to the inside is valid.
  - To proof that exchanging summation order is valid.
  - To proof $\sum_{Y:Z\subset Y\subset X}(-1)^{|Y|}=0$.
- Theorem 10.13
  - To proof that for given set $A, B, A\cup B\subset X$, $\sum_{Y:Y\subset X}[A\cup B=Y]=1$
- Theorem 10.15
  - To proof for given $0\leq k\leq n$, $\sum_{i=0}^{n}[i=k]=1$
  - To proof for given set A, B, X, $A\cup B=X\to(A\cap B=\emptyset\leftrightarrow|A|+|B|=|X|)$
- Theorem 10.12
  - To proof that $\zeta_j f$ can be calculate in a recursive type
  - To proof that $\zeta_n f$ is the same as ζf

Theorem 10.14 and 10.16 is about time complexity, we do not proof them.