

Princeton University

COS 217: Introduction to Programming Systems

Hash Table Fundamental Algorithms

Informally...

```
boolean put(key, value)
{
  hashcode <- hash(key)
  bucket <- hashcode % BUCKET_COUNT
  if a binding with key is in bucket
    return FALSE
  insert a new binding containing key and value into bucket
  return TRUE
}
```

```
value getValue(key)
{
  hashcode <- hash(key)
  bucket <- hashcode % BUCKET_COUNT
  if a binding with key is in bucket
    return the binding's value
  return NULL
}
```

```
boolean remove(key)
{
  hashcode <- hash(key)
  bucket <- hashcode % BUCKET_COUNT
  if a binding with key is in bucket
    remove the binding from bucket
    return TRUE
  return FALSE
}
```