

Size of Main Memory in Bytes: 131072

\*\*\*\*\* Small Cache \*\*\*\*\*

CacheMemory constructor:

```
numLines = 8
numSets = 4
numByteBits = 2
numSetBits = 2
numTagBits = 28
```

Report from small cache test:

Number of requests: 14

Number of hits: 3

hit ratio: 0.21428571428571427

\*\*\*\*\* Set-Associative Cache \*\*\*\*\*

CacheMemory constructor:

```
numLines = 128
numSets = 32
numByteBits = 4
numSetBits = 5
numTagBits = 23
```

Report from cacheMemoryA with randomReads:

Number of requests: 10000

Number of hits: 180

hit ratio: 0.018

CacheMemory constructor:

```
numLines = 128
numSets = 32
numByteBits = 4
numSetBits = 5
numTagBits = 23
```

Report from cacheMemoryA with sequentialReads:

Number of requests: 32764

Number of hits: 24573

hit ratio: 0.75

CacheMemory constructor:

```
numLines = 128
numSets = 32
numByteBits = 4
numSetBits = 5
numTagBits = 23
```

Report from cacheMemoryA with repeatReads:

Number of requests: 13000

Number of hits: 4142

hit ratio: 0.31861538461538463

\*\*\*\*\* Direct Mapped Cache \*\*\*\*\*

CacheMemory constructor:

```
numLines = 128
numSets = 128
numByteBits = 4
numSetBits = 7
numTagBits = 21
```

Report from cacheMemoryB with randomReads:

Number of requests: 10000

Number of hits: 168

hit ratio: 0.0168

CacheMemory constructor:

numLines = 128  
numSets = 128  
numByteBits = 4  
numSetBits = 7  
numTagBits = 21

Report from cacheMemoryB with sequentialReads:

Number of requests: 32764  
Number of hits: 24573  
hit ratio: 0.75

CacheMemory constructor:

numLines = 128  
numSets = 128  
numByteBits = 4  
numSetBits = 7  
numTagBits = 21

Report from cacheMemoryB with repeatReads:

Number of requests: 13000  
Number of hits: 3873  
hit ratio: 0.2979230769230769

\*\*\*\*\* Fully Associative Cache \*\*\*\*\*

CacheMemory constructor:

numLines = 128  
numSets = 1  
numByteBits = 4  
numSetBits = 0  
numTagBits = 28

Report from cacheMemoryC with randomReads:

Number of requests: 10000  
Number of hits: 176  
hit ratio: 0.0176

CacheMemory constructor:

numLines = 128  
numSets = 1  
numByteBits = 4  
numSetBits = 0  
numTagBits = 28

Report from cacheMemoryC with sequentialReads:

Number of requests: 32764  
Number of hits: 24573  
hit ratio: 0.75

CacheMemory constructor:

numLines = 128  
numSets = 1  
numByteBits = 4  
numSetBits = 0  
numTagBits = 28

Report from cacheMemoryC with repeatReads:

Number of requests: 13000  
Number of hits: 4143  
hit ratio: 0.3186923076923077

