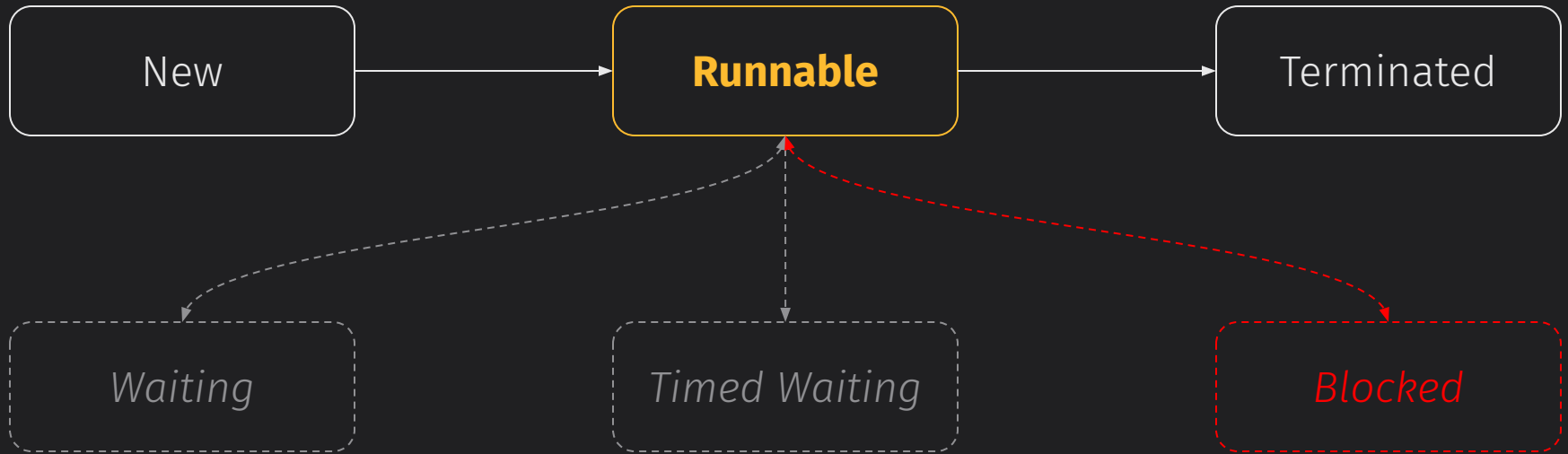


# Thread Lifecycle

## CS 272 Software Development

# Thread States



<https://www.cs.usfca.edu/~cs272/javadoc/api/java.base/java/lang/Thread.State.html>

## CODE (SIMPLIFIED)

```
public ThreadStateDemo() {
    parent = Thread.currentThread();
    worker = new Worker();

    worker.start();
    calculate(500);

    worker.join();
}

private class Worker extends Thread {
    public void run() {
        calculate(1000);
    }
}
```

## PARENT THREAD

## WORKER THREAD



## CODE (SIMPLIFIED)

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```

## PARENT THREAD

RUNNABLE

|

## WORKER THREAD



## CODE (SIMPLIFIED)

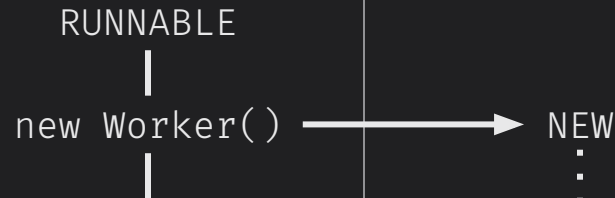
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## WORKER THREAD



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    calculate(500);  
  
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    }  
}
```

## PARENT THREAD

```
RUNNABLE  
|  
new Worker() →  
|  
worker.start()  
|
```

## WORKER THREAD

```
NEW  
⋮  
RUNNABLE  
|
```



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RUNNABLE
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new Worker() →
|
worker.start()
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calc(500)
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## WORKER THREAD

```
NEW
⋮
RUNNABLE
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calc(1000)
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## PARENT THREAD

```
RUNNABLE
|
new Worker() →
|
worker.start()
|
calc(500)
|
worker.join()
|
WAITING
|
⋮
```

## WORKER THREAD

```
NEW
⋮
RUNNABLE
|
calc(1000)
|
⋮
```





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RUNNABLE  
|  
new Worker() →  
|  
worker.start()  
|  
calc(500)  
|  
worker.join()  
|  
WAITING  
⋮  
RUNNABLE ←  
|  
TERMINATED

## WORKER THREAD

NEW  
⋮  
RUNNABLE  
|  
calc(1000)  
|  
TERMINATED



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RUNNABLE  
|  
new Worker() →  
|  
worker.start()  
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calc(500)  
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WAITING  
⋮  
RUNNABLE ←  
|  
TERMINATED

## WORKER THREAD

NEW  
⋮  
RUNNABLE  
|  
calc(1000)  
|  
TERMINATED





---

CHANGE THE WORLD FROM HERE