

Step 1: Find out which methods you are asked to supply.
Create three clocks, one local one 3 hours ahead and one 3 hours behind

Step 2: Specify the public interface.
Public class world extends clock
Public class clock

Step 3: Document the public interface.

Creates local time along with an alarm clock with a hardcoded time
Public class clock

```
{  
}
```

Public class world extends clock

```
{
```

```
    world(long offset)
```

```
    {  
    }
```

```
}
```

Step 4: Determine instance variables.

Public class clock

```
    protected int alarmMinutes;  
    protected int alarmHours;  
    protected int alarmSeconds;
```

Public class World Clock

```
    private final long offset;
```

Step 5: Implement constructors and methods.

public String getTime()

```
{
```

```
    String currentTime = getHours()+":"+getMinutes()+":"+getSeconds();  
    String alarmTime = alarmHours+": "+alarmMinutes+": "+alarmSeconds;
```

```
    if (currentTime.compareTo(alarmTime) >= 0)
```

```
    {
```

```
        alarmHours = 999;  
        alarmMinutes = 999;  
        alarmSeconds = 999;
```

```
        return getHours()+":"+getMinutes()+":"+getSeconds()+" Alarm";
```

```
}
```

```

        return getHours()+":"+getMinutes()+":"+getSeconds();
    }

```

Same iteration for hours, minutes and seconds for both current and world clocks
 Only exception is addition of currentTime(offset) which adds whatever difference to the clocks
 Hour

```

    @Override
    public int getHours()
    {
        LocalTime currentTime = LocalTime.now();
        currentTime = currentTime.plusHours(offset);
        String nowTimeStr = currentTime.toString();
        return Integer.parseInt(nowTimeStr.substring(0,2));
    }

    private final long offset;
    World(long offset)
    {
        this.offset = offset;
    }

    public void setAlarm(int hours, int minutes, int seconds)
    {
        super.setAlarm((hours + (int)offset),minutes,seconds);
    }

```

Step 6: Test your class.

/*

Alarm only triggered for east coast not Hawaii or Pacific

Pacific time is the time here

Hours: 15

Minutes: 44

Seconds: 41

Current time: 15:44:41

East coast time is +3 hours ahead

Hours: 18

Minutes: 44

Seconds: 41

Current time: 18:44:41 Alarm

Hawaiian coast time is -3 hours ahead

Hours: 12

Minutes: 44

Seconds: 41

Current time: 12:44:41

 BUILD SUCCESS

Total time: 0.824 s

Finished at: 2020-07-13T15:44:41-07:00

Alarm clock set at 3:35pm or 15:45, all alarms triggered now

Pacific time is the time here

Hours: 15

Minutes: 45

Seconds: 31

Current time: 15:45:31 Alarm

East coast time is +3 hours ahead

Hours: 18

Minutes: 45

Seconds: 31

Current time: 18:45:31 Alarm

Hawaiian coast time is -3 hours ahead

Hours: 12

Minutes: 45

Seconds: 31

Current time: 12:45:31 Alarm

BUILD SUCCESS

Total time: 0.861 s

Finished at: 2020-07-13T15:45:31-07:00

*/