# exam schedule

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## My solution

### Python code

```
import pandas as pd
from datetime import datetime, timedelta
from random import sample


def create_exam_schedules(days, h_starts, h_ends,n_group):
    schedules = []
    for day, h_start, h_end in zip(days, h_starts, h_ends):
        schedule = datetime(2021, 3, day, h_start, 0)
        i = 0
        while (schedule + timedelta(minutes=30) < datetime(2021, 3, day, h_end, 0)
               and len(schedules) <= n_group-1):
            i += 1
            if i%3 != 0:
                to_add = 30
            else:
                to_add = 45
            schedules.append(schedule)
            schedule += timedelta(minutes=to_add)
    return schedules

groups = [
  'Alioune/Tingyu/Yasser',
  'Aristote/Habibata/Roland',
  'Arstrid/Tamara',
  'Corentin',
  'Mohammad/Andrija/Mouhamadou Khoury',
  'Amadou Abdoulaye/Mohamed/Julian',
  'Chenyin/Yuchen/Chunhua',
  'Guillaume/Lucas/Nikola',
  'Akouahi/Ousmane'
  ]


schedules = pd.DataFrame({'date':create_exam_schedules([23,24],[8]*2,[11]*2, 9),
                          'group':sample(groups,len(groups))})
```

## Output

```
library(kableExtra)

py$schedules %>%
  kbl(booktabs = T)
```

| date | group |
|---|---|
| 2021-03-23 09:00:00 | Aristote/Habibata/Roland |
| 2021-03-23 09:30:00 | Chenyin/Yuchen/Chunhua |
| 2021-03-23 10:00:00 | Mohammad/Andrija/Mouhamadou Khoury |
| 2021-03-23 10:45:00 | Corentin |
| 2021-03-23 11:15:00 | Guillaume/Lucas/Nikola |
| 2021-03-24 09:00:00 | Alioune/Tingyu/Yasser |
| 2021-03-24 09:30:00 | Akouahi/Ousmane |
| 2021-03-24 10:00:00 | Arstrid/Tamara |
| 2021-03-24 10:45:00 | Amadou Abdoulaye/Mohamed/Julian |