

```
def is_weekend(date):  
    return date.strftime("%w") == "0" or date.strftime("%w") == "6"  
  
def getDays(num, weekend):  
    days = []  
    for i in range(1, num * 7):  
        day = datetime.datetime.now() + datetime.timedelta(days=-i)  
        if is_weekend(day) and weekend:  
            days.append(day.strftime('%Y%m%d'))  
        elif not is_weekend(day) and not weekend:  
            days.append(day.strftime('%Y%m%d'))  
        if len(days) >= num:  
            break  
    return days  
  
def get_ts(num):  
    return int(time.mktime(datetime.date.today().timetuple()) - num * 60 * 60 * 24) * 1000  
  
def get_ds(num):  
    return (datetime.datetime.now() + datetime.timedelta(days=-num)).strftime('%Y%m%d')  
  
def get_ds_hour(days=0, hours=0):  
    return (datetime.datetime.now() + datetime.timedelta(days=-days, hours=hours)).strftime('%Y%m%d%H')  
  
def get_date(num, format='%Y-%m-%d'):  
    return (datetime.datetime.now() + datetime.timedelta(days=-num)).strftime(format)  
  
def get_month_first(num):  
    date = (datetime.date.today() - relativedelta(months=num))
```

```
return datetime.date(date.year, date.month, 1)
```

```
def get_month_first_date(num):
```

```
    return get_month_first(num).strftime('%Y-%m-%d')
```

```
def get_month_first_ds(num):
```

```
    return get_month_first(num).strftime('%Y%m%d')
```

```
def get_month_first_ts(num):
```

```
    return date2ts(get_month_first(num))
```

```
def get_month(num):
```

```
    return get_month_first(num).strftime('%Y%m')
```

```
def get_week_first(num):
```

```
    now = datetime.date.today()
```

```
    return now - datetime.timedelta(days=now.weekday()) - relativedelta(weeks=num)
```

```
def get_week_last(num):
```

```
    now = datetime.date.today()
```

```
    return now + datetime.timedelta(days=6 - now.weekday()) - relativedelta(weeks=num)
```

```
def get_week_first_date(num):
```

```
    return get_week_first(num).strftime('%Y-%m-%d')
```

```
def get_week_first_ds(num):
```

```
    return get_week_first(num).strftime('%Y%m%d')
```

