Assignment 2

1. Datetime

In [1]:
```
import pandas as pd
import numpy as np
import datetime
```

In [4]:
```
equinox = datetime.date(2022,3,20)
print(equinox)
```

```
2022-03-20
```

In [7]:
```
def equinox_calc(date):
    if date > datetime.date(2022,3,20):
        print("Spring has sprung")
    else:
        print("Spring is coming")
date1 = datetime.date(2021,5,12)
date2 = datetime.date(2022,4,10)

equinox_calc(date1)
equinox_calc(date2)
```

```
Spring is coming
Spring has sprung
```

In [11]:
```
def day_diff(date):
    if date > equinox:
        delta = date - equinox
        return (f"{delta.days} Days since the 2022 spring equinox")
    else:
        delta = equinox - date
        return (f"{delta.days} Days until the 2022 spring equinox")

date1 = datetime.date(2021,5,12)
date2 = datetime.date(2022,4,10)

print(day_diff(date1))
print(day_diff(date2))
```

```
312 Days until the 2022 spring equinox
21 Days since the 2022 spring equinox
```

2. Bond Calculator

In [30]:
```
def bond_calculator(face_value,coupon_payment,coupon_freq,IR,YTM):
    coupon_per_period = coupon_payment * coupon_freq
    price = 0
    for i in range(1,YTM):
        price += coupon_per_period / ((1 + IR)**i)
    price += (face_value+ coupon_per_period) / ((1+IR)**YTM)
    return price

bond_calculator(1000,30,2,.04,10)
```

Out[30]:
```
1162.2179155871004
```

In [ ]:
```

```