[5-2. 매출 모델링]

In [1]:
```
import pandas as pd
from pandas import DataFrame, Series
import cafle
from cafle import Index, Account
from cafle import Setattr
```

In [4]:
```
from practice.astn0_overview import overview, idx
```

1. 분양매출 테이블 작성

In [5]:
```
분양_오피스텔 = DataFrame({
    "호실면적" : [10, 11, 12, 13], #평
    "호실수"   : [120, 30, 120, 50], #실
    "평단가"   : [22.0, 22.0, 22.0, 22.0], #백만원/평
},  index    = ['A', 'B', 'C', 'D'])
```

In [6]:
```
분양_오피스텔
```

Out[6]:

	호실면적	호실수	평단가
A	10	120	18.0
B	11	30	18.0
C	12	120	18.0
D	13	50	18.0

In [7]:
```
B = 분양_오피스텔
B['호실면적m2'] = round(B['호실면적'] * cafle.PY, 2)
B['면적소계'] = B['호실면적'] * B['호실수']
B['면적소계m2'] = round(B['호실면적m2'] * B['호실수'], 2)
B['호실단가'] = B['호실면적'] * B['평단가']
B['매출소계'] = B['면적소계'] * B['평단가']
```

In [8]:
```
분양_오피스텔
```

Out[8]:

	호실면적	호실수	평단가	호실면적m2	면적소계	면적소계m2	호실단가	매출소계
A	10	120	18.0	3.03	1200	363.6	180.0	21600.0
B	11	30	18.0	3.33	330	99.9	198.0	5940.0
C	12	120	18.0	3.63	1440	435.6	216.0	25920.0
D	13	50	18.0	3.93	650	196.5	234.0	11700.0

In [9]:
```
분양_오피스텔.sum()
```

Out[9]:
```
호실면적          46.00
호실수          320.00
평단가           72.00
호실면적m2        13.92
면적소계        3620.00
면적소계m2      1095.60
호실단가         828.00
매출소계       65160.00
dtype: float64
```

In [10]:
```
print(f"오피스텔 매출액 : {sum(분양_오피스텔['매출소계']):,.0f}백만원")
```

```
오피스텔 매출액 : 65,160백만원
```

In [ ]:
```

```

In [11]:
```
분양_근생 = DataFrame({
    "면적" : [140], #평
    "평단가" : [50.0], #백만원/평
},  index = ['F1'])
```

In [12]:
```
B = 분양_근생
B['면적m2'] = round(B['면적'] * cafle.PY, 2)
B['매출소계'] = B['면적'] * B['평단가']
```

In [13]:
```
분양_근생
```

Out[13]:

	면적	평단가	면적m2	매출소계
F1	140	40.0	42.35	5600.0

In [14]:
```
print(f"오피스텔 매출액 : {sum(분양_오피스텔['매출소계']):,.0f}백만원")
print(f"근생 매출액     : {sum(분양_근생['매출소계']):,.0f}백만원")
print(f"총 매출액       : {sum(분양_오피스텔['매출소계']) + sum(분양_근생['매출소계']):,.0f}백만원")
```

```
오피스텔 매출액 : 65,160백만원
근생 매출액     : 5,600백만원
총 매출액       : 70,760백만원
```

In [ ]:

In [15]:
```
분양테이블 = {
    "오피" : 분양_오피스텔,
    "근생" : 분양_근생,
}
```

In [16]:
```
분양테이블
```

Out[16]:
```
{'오피':    호실면적  호실수   평단가  호실면적m2  면적소계  면적소계m2   호실단가      매출소계
 A     10   120  18.0     3.03   1200    363.6  180.0  21600.0
 B     11    30  18.0     3.33    330     99.9  198.0   5940.0
 C     12   120  18.0     3.63   1440    435.6  216.0  25920.0
 D     13    50  18.0     3.93    650    196.5  234.0  11700.0,
 '근생':      면적   평단가   면적m2    매출소계
 F1  140  40.0  42.35  5600.0}
```

In [17]:
```
분양테이블['오피']
```

Out[17]:

	호실면적	호실수	평단가	호실면적m2	면적소계	면적소계m2	호실단가	매출소계
A	10	120	18.0	3.03	1200	363.6	180.0	21600.0
B	11	30	18.0	3.33	330	99.9	198.0	5940.0
C	12	120	18.0	3.63	1440	435.6	216.0	25920.0
D	13	50	18.0	3.93	650	196.5	234.0	11700.0

In [18]:
```
분양테이블['근생']
```

Out[18]:

	면적	평단가	면적m2	매출소계
F1	140	40.0	42.35	5600.0

In [ ]:

In [19]:
```
분양매출 = {
    "오피" : 분양테이블['오피']['매출소계'].sum(),
    "근생" : 분양테이블['근생']['매출소계'].sum(),
    "합계" : 분양테이블['오피']['매출소계'].sum() + 분양테이블['근생']['매출소계'
].sum()
}
```

In [20]:
```
분양매출
```

Out[20]:
```
{'오피': 65160.0, '근생': 5600.0, '합계': 70760.0}
```

In [ ]:
```

```

2. 분양대금 납입 일정

In [21]:
```
대금납입일정 = DataFrame({
    '구분': ['계약금', '중도금1', '중도금2', '중도금3', '중도금4', '잔금'],
    '오피': [   0.1,     0.1,     0.1,      0.1,     0.1,   0.5],
    '근생': [   0.1,     0.1,     0.1,      0.1,     0.0,   0.6],
}, index=  [idx.sales[0], idx.sales[5], idx.sales[10], idx.sales[15
], idx.sales[20], idx.sales[-1]])
```

In [22]:
```
대금납입일정
```

Out[22]:

	구분	오피	근생
2023-04-30	계약금	0.1	0.1
2023-09-30	중도금1	0.1	0.1
2024-02-29	중도금2	0.1	0.1
2024-07-31	중도금3	0.1	0.1
2024-12-31	중도금4	0.1	0.0
2025-04-30	잔금	0.5	0.6

In [23]:
```
대금납입일정['납입오피'] = 대금납입일정['오피'] * 분양테이블['오피']['매출소계'].su
m()
대금납입일정['납입근생'] = 대금납입일정['근생'] * 분양테이블['근생']['매출소계'].su
m()
대금납입일정['납입소계'] = 대금납입일정['납입오피'] + 대금납입일정['납입근생']
```

In [24]:
```
대금납입일정
```

Out[24]:

	구분	오피	근생	납입오피	납입근생	납입소계
2023-04-30	계약금	0.1	0.1	6516.0	560.0	7076.0
2023-09-30	중도금1	0.1	0.1	6516.0	560.0	7076.0
2024-02-29	중도금2	0.1	0.1	6516.0	560.0	7076.0
2024-07-31	중도금3	0.1	0.1	6516.0	560.0	7076.0
2024-12-31	중도금4	0.1	0.0	6516.0	0.0	6516.0
2025-04-30	잔금	0.5	0.6	32580.0	3360.0	35940.0

In [ ]:
```
```

3. 분양률 가정

In [25]:
```
분양률가정 = DataFrame({
    '오피': [   0.2,     0.2,     0.2,     0.2,     0.2],
    '근생': [   0.0,     0.0,     0.0,     0.0,     1.0],
}, index=  [idx.sales[0], idx.sales[6], idx.sales[12], idx.sales[18
], idx.sales[-1]])
```

In [26]:
```
분양률가정['계약오피'] = 분양률가정['오피'] * 분양테이블['오피']['매출소계'].sum()
분양률가정['계약근생'] = 분양률가정['근생'] * 분양테이블['근생']['매출소계'].sum()
분양률가정['계약소계'] = 분양률가정['계약오피'] + 분양률가정['계약근생']
```

In [27]:
```
분양률가정
```

Out[27]:

	오피	근생	계약오피	계약근생	계약소계
2023-04-30	0.2	0.0	13032.0	0.0	13032.0
2023-10-31	0.2	0.0	13032.0	0.0	13032.0
2024-04-30	0.2	0.0	13032.0	0.0	13032.0
2024-10-31	0.2	0.0	13032.0	0.0	13032.0
2025-04-30	0.2	1.0	13032.0	5600.0	18632.0

In [28]:
```
분양률가정.cumsum()
```

Out[28]:

	오피	근생	계약오피	계약근생	계약소계
2023-04-30	0.2	0.0	13032.0	0.0	13032.0
2023-10-31	0.4	0.0	26064.0	0.0	26064.0
2024-04-30	0.6	0.0	39096.0	0.0	39096.0
2024-10-31	0.8	0.0	52128.0	0.0	52128.0
2025-04-30	1.0	1.0	65160.0	5600.0	70760.0

In [ ]:
```
```

4. Sales Account 설정

1) 최초 100% 분양 가정

In [29]:
```
sales = Account(idx)
sales.오피 = sales.subacc('오피')
sales.근생 = sales.subacc('근생')
```

In [30]:
```
sales
```

Out[30]:
```
Account(main, len 30, dct: ['오피', '근생'])
```

In [31]:
```
sales.오피
```

Out[31]:
```
Account(오피, len 30)
```

In [32]:
```
sales.근생
```

Out[32]:
```
Account(근생, len 30)
```

In [33]:
```
sales.오피.subscd(대금납입일정.index, 대금납입일정['납입오피'])
sales.근생.subscd(대금납입일정.index, 대금납입일정['납입근생'])
```

In [34]:
```
sales.오피.dfall
```

Out[34]:

	scd_in	scd_in_cum	scd_out	scd_out_cum	bal_strt	amt_in	amt_in_cum	amt_out
2023-01-31	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2023-								

02-28	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2023-03-31	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2023-04-30	0.0	0.0	6516.0	6516.0	0.0	0.0	0.0	0.0
2023-05-31	0.0	0.0	0.0	6516.0	0.0	0.0	0.0	0.0
2023-06-30	0.0	0.0	0.0	6516.0	0.0	0.0	0.0	0.0
2023-07-31	0.0	0.0	0.0	6516.0	0.0	0.0	0.0	0.0
2023-08-31	0.0	0.0	0.0	6516.0	0.0	0.0	0.0	0.0
2023-09-30	0.0	0.0	6516.0	13032.0	0.0	0.0	0.0	0.0
2023-10-31	0.0	0.0	0.0	13032.0	0.0	0.0	0.0	0.0
2023-11-30	0.0	0.0	0.0	13032.0	0.0	0.0	0.0	0.0
2023-12-31	0.0	0.0	0.0	13032.0	0.0	0.0	0.0	0.0
2024-01-31	0.0	0.0	0.0	13032.0	0.0	0.0	0.0	0.0
2024-02-29	0.0	0.0	6516.0	19548.0	0.0	0.0	0.0	0.0
2024-03-31	0.0	0.0	0.0	19548.0	0.0	0.0	0.0	0.0
2024-04-30	0.0	0.0	0.0	19548.0	0.0	0.0	0.0	0.0
2024-05-31	0.0	0.0	0.0	19548.0	0.0	0.0	0.0	0.0
2024-06-30	0.0	0.0	0.0	19548.0	0.0	0.0	0.0	0.0
2024-07-31	0.0	0.0	6516.0	26064.0	0.0	0.0	0.0	0.0
2024-08-31	0.0	0.0	0.0	26064.0	0.0	0.0	0.0	0.0
2024-09-30	0.0	0.0	0.0	26064.0	0.0	0.0	0.0	0.0
2024-10-31	0.0	0.0	0.0	26064.0	0.0	0.0	0.0	0.0
2024-11-30	0.0	0.0	0.0	26064.0	0.0	0.0	0.0	0.0

2024-12-31	0.0	0.0	6516.0	32580.0	0.0	0.0	0.0	0.0
2025-01-31	0.0	0.0	0.0	32580.0	0.0	0.0	0.0	0.0
2025-02-28	0.0	0.0	0.0	32580.0	0.0	0.0	0.0	0.0
2025-03-31	0.0	0.0	0.0	32580.0	0.0	0.0	0.0	0.0
2025-04-30	0.0	0.0	32580.0	65160.0	0.0	0.0	0.0	0.0
2025-05-31	0.0	0.0	0.0	65160.0	0.0	0.0	0.0	0.0
2025-06-30	0.0	0.0	0.0	65160.0	0.0	0.0	0.0	0.0

In [35]:
```
sales.근생.dfall
```

Out[35]:

	scd_in	scd_in_cum	scd_out	scd_out_cum	bal_strt	amt_in	amt_in_cum	amt_out
2023-01-31	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2023-02-28	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2023-03-31	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2023-04-30	0.0	0.0	560.0	560.0	0.0	0.0	0.0	0.0
2023-05-31	0.0	0.0	0.0	560.0	0.0	0.0	0.0	0.0
2023-06-30	0.0	0.0	0.0	560.0	0.0	0.0	0.0	0.0
2023-07-31	0.0	0.0	0.0	560.0	0.0	0.0	0.0	0.0
2023-08-31	0.0	0.0	0.0	560.0	0.0	0.0	0.0	0.0
2023-09-30	0.0	0.0	560.0	1120.0	0.0	0.0	0.0	0.0
2023-10-31	0.0	0.0	0.0	1120.0	0.0	0.0	0.0	0.0
2023-11-30	0.0	0.0	0.0	1120.0	0.0	0.0	0.0	0.0
2023-12-31	0.0	0.0	0.0	1120.0	0.0	0.0	0.0	0.0
2024-								

01-31	0.0	0.0	0.0	1120.0	0.0	0.0	0.0	0.0
2024-02-29	0.0	0.0	560.0	1680.0	0.0	0.0	0.0	0.0
2024-03-31	0.0	0.0	0.0	1680.0	0.0	0.0	0.0	0.0
2024-04-30	0.0	0.0	0.0	1680.0	0.0	0.0	0.0	0.0
2024-05-31	0.0	0.0	0.0	1680.0	0.0	0.0	0.0	0.0
2024-06-30	0.0	0.0	0.0	1680.0	0.0	0.0	0.0	0.0
2024-07-31	0.0	0.0	560.0	2240.0	0.0	0.0	0.0	0.0
2024-08-31	0.0	0.0	0.0	2240.0	0.0	0.0	0.0	0.0
2024-09-30	0.0	0.0	0.0	2240.0	0.0	0.0	0.0	0.0
2024-10-31	0.0	0.0	0.0	2240.0	0.0	0.0	0.0	0.0
2024-11-30	0.0	0.0	0.0	2240.0	0.0	0.0	0.0	0.0
2024-12-31	0.0	0.0	0.0	2240.0	0.0	0.0	0.0	0.0
2025-01-31	0.0	0.0	0.0	2240.0	0.0	0.0	0.0	0.0
2025-02-28	0.0	0.0	0.0	2240.0	0.0	0.0	0.0	0.0
2025-03-31	0.0	0.0	0.0	2240.0	0.0	0.0	0.0	0.0
2025-04-30	0.0	0.0	3360.0	5600.0	0.0	0.0	0.0	0.0
2025-05-31	0.0	0.0	0.0	5600.0	0.0	0.0	0.0	0.0
2025-06-30	0.0	0.0	0.0	5600.0	0.0	0.0	0.0	0.0

In [ ]:

2) 분양률 가정 적용

In [36]:
```
sales = Account(idx)
sales.오피 = sales.subacc('오피')
sales.근생 = sales.subacc('근생')
```

In [ ]:
```

```

In [37]:
```
현금스케줄_오피 = DataFrame(index = idx)
현금스케줄_오피['계약율'] = 분양률가정['오피']
현금스케줄_오피['납입율'] = 대금납입일정['오피']
현금스케줄_오피 = 현금스케줄_오피.fillna(0.0)
```

In [38]:
```
현금스케줄_오피
```

Out[38]:

	계약율	납입율
2023-01-31	0.0	0.0
2023-02-28	0.0	0.0
2023-03-31	0.0	0.0
2023-04-30	0.2	0.1
2023-05-31	0.0	0.0
2023-06-30	0.0	0.0
2023-07-31	0.0	0.0
2023-08-31	0.0	0.0
2023-09-30	0.0	0.1
2023-10-31	0.2	0.0
2023-11-30	0.0	0.0
2023-12-31	0.0	0.0
2024-01-31	0.0	0.0
2024-02-29	0.0	0.1
2024-03-31	0.0	0.0
2024-04-30	0.2	0.0
2024-05-31	0.0	0.0
2024-06-30	0.0	0.0
2024-07-31	0.0	0.1
2024-08-31	0.0	0.0
2024-09-30	0.0	0.0
2024-10-31	0.2	0.0
2024-11-30	0.0	0.0
2024-12-31	0.0	0.1
2025-01-31	0.0	0.0
2025-02-28	0.0	0.0
2025-03-31	0.0	0.0
2025-04-30	0.2	0.5
2025-05-31	0.0	0.0
2025-06-30	0.0	0.0

In [39]:
```
현금스케줄_오피[['계약율누적', '납입율누적']] = 현금스케줄_오피.cumsum()
현금스케줄_오피['현금율누적'] = 현금스케줄_오피['계약율누적'] * 현금스케줄_오피['납입율누적']
현금스케줄_오피['현금율유입'] = 현금스케줄_오피['현금율누적'].diff()
현금스케줄_오피 = 현금스케줄_오피.fillna(0.0)
```

In [40]:
```
현금스케줄_오피
```

Out[40]:

	계약율	납입율	계약율누적	납입율누적	현금율누적	현금율유입
2023-01-31	0.0	0.0	0.0	0.0	0.00	0.00
2023-02-28	0.0	0.0	0.0	0.0	0.00	0.00
2023-03-31	0.0	0.0	0.0	0.0	0.00	0.00
2023-04-30	0.2	0.1	0.2	0.1	0.02	0.02
2023-05-31	0.0	0.0	0.2	0.1	0.02	0.00
2023-06-30	0.0	0.0	0.2	0.1	0.02	0.00
2023-07-31	0.0	0.0	0.2	0.1	0.02	0.00
2023-08-31	0.0	0.0	0.2	0.1	0.02	0.00
2023-09-30	0.0	0.1	0.2	0.2	0.04	0.02
2023-10-31	0.2	0.0	0.4	0.2	0.08	0.04
2023-11-30	0.0	0.0	0.4	0.2	0.08	0.00
2023-12-31	0.0	0.0	0.4	0.2	0.08	0.00
2024-01-31	0.0	0.0	0.4	0.2	0.08	0.00
2024-02-29	0.0	0.1	0.4	0.3	0.12	0.04
2024-03-31	0.0	0.0	0.4	0.3	0.12	0.00
2024-04-30	0.2	0.0	0.6	0.3	0.18	0.06
2024-05-31	0.0	0.0	0.6	0.3	0.18	0.00
2024-06-30	0.0	0.0	0.6	0.3	0.18	0.00
2024-07-31	0.0	0.1	0.6	0.4	0.24	0.06
2024-08-31	0.0	0.0	0.6	0.4	0.24	0.00
2024-09-30	0.0	0.0	0.6	0.4	0.24	0.00
2024-10-31	0.2	0.0	0.8	0.4	0.32	0.08
2024-11-30	0.0	0.0	0.8	0.4	0.32	0.00
2024-12-31	0.0	0.1	0.8	0.5	0.40	0.08
2025-01-31	0.0	0.0	0.8	0.5	0.40	0.00
2025-02-28	0.0	0.0	0.8	0.5	0.40	0.00
2025-03-31	0.0	0.0	0.8	0.5	0.40	0.00
2025-04-30	0.2	0.5	1.0	1.0	1.00	0.60
2025-05-31	0.0	0.0	1.0	1.0	1.00	0.00
2025-06-30	0.0	0.0	1.0	1.0	1.00	0.00

In [41]:
```
sales.오피.subscd(현금스케줄_오피.index, 현금스케줄_오피['현금율유입'] * 분양테이블['오피']['매출소계'].sum())
```

In [42]:
```
sales.오피.dfall
```

Out[42]:

	scd_in	scd_in_cum	scd_out	scd_out_cum	bal_strt	amt_in	amt_in_cum	amt_out
2023-01-31	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2023-02-28	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2023-03-31	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2023-04-30	0.0	0.0	1303.2	1303.2	0.0	0.0	0.0	0.0
2023-05-31	0.0	0.0	0.0	1303.2	0.0	0.0	0.0	0.0
2023-06-30	0.0	0.0	0.0	1303.2	0.0	0.0	0.0	0.0
2023-07-31	0.0	0.0	0.0	1303.2	0.0	0.0	0.0	0.0
2023-08-31	0.0	0.0	0.0	1303.2	0.0	0.0	0.0	0.0
2023-09-30	0.0	0.0	1303.2	2606.4	0.0	0.0	0.0	0.0
2023-10-31	0.0	0.0	2606.4	5212.8	0.0	0.0	0.0	0.0
2023-11-30	0.0	0.0	0.0	5212.8	0.0	0.0	0.0	0.0
2023-12-31	0.0	0.0	0.0	5212.8	0.0	0.0	0.0	0.0
2024-01-31	0.0	0.0	0.0	5212.8	0.0	0.0	0.0	0.0
2024-02-29	0.0	0.0	2606.4	7819.2	0.0	0.0	0.0	0.0
2024-03-31	0.0	0.0	0.0	7819.2	0.0	0.0	0.0	0.0
2024-04-30	0.0	0.0	3909.6	11728.8	0.0	0.0	0.0	0.0
2024-05-31	0.0	0.0	0.0	11728.8	0.0	0.0	0.0	0.0
2024-06-30	0.0	0.0	0.0	11728.8	0.0	0.0	0.0	0.0

2024-07-31	0.0	0.0	3909.6	15638.4	0.0	0.0	0.0	0.0
2024-08-31	0.0	0.0	0.0	15638.4	0.0	0.0	0.0	0.0
2024-09-30	0.0	0.0	0.0	15638.4	0.0	0.0	0.0	0.0
2024-10-31	0.0	0.0	5212.8	20851.2	0.0	0.0	0.0	0.0
2024-11-30	0.0	0.0	0.0	20851.2	0.0	0.0	0.0	0.0
2024-12-31	0.0	0.0	5212.8	26064.0	0.0	0.0	0.0	0.0
2025-01-31	0.0	0.0	0.0	26064.0	0.0	0.0	0.0	0.0
2025-02-28	0.0	0.0	0.0	26064.0	0.0	0.0	0.0	0.0
2025-03-31	0.0	0.0	0.0	26064.0	0.0	0.0	0.0	0.0
2025-04-30	0.0	0.0	39096.0	65160.0	0.0	0.0	0.0	0.0
2025-05-31	0.0	0.0	0.0	65160.0	0.0	0.0	0.0	0.0
2025-06-30	0.0	0.0	0.0	65160.0	0.0	0.0	0.0	0.0

In [ ]:

```
```

In [43]:

```
현금스케줄_근생 = DataFrame(index = idx)
현금스케줄_근생['계약율'] = 분양률가정['근생']
현금스케줄_근생['납입율'] = 대금납입일정['근생']
현금스케줄_근생 = 현금스케줄_근생.fillna(0.0)

현금스케줄_근생[['계약율누적', '납입율누적']] = 현금스케줄_근생.cumsum()
현금스케줄_근생['현금율누적'] = 현금스케줄_근생['계약율누적'] * 현금스케줄_근생['납입율누적']
현금스케줄_근생['현금율유입'] = 현금스케줄_근생['현금율누적'].diff()
현금스케줄_근생 = 현금스케줄_근생.fillna(0.0)
```

In [44]:

```
sales.근생.subscd(현금스케줄_근생.index, 현금스케줄_근생['현금율유입'] * 분양테이블['근생']['매출소계'].sum())
```

In [45]:

```
sales.근생.dfall
```

Out[45]:

	scd_in	scd_in_cum	scd_out	scd_out_cum	bal_strt	amt_in	amt_in_cum	amt_out
2023-								

01-31	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2023-02-28	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2023-03-31	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2023-04-30	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2023-05-31	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2023-06-30	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2023-07-31	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2023-08-31	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2023-09-30	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2023-10-31	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2023-11-30	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2023-12-31	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2024-01-31	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2024-02-29	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2024-03-31	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2024-04-30	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2024-05-31	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2024-06-30	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2024-07-31	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2024-08-31	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2024-09-30	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2024-10-31	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

2024-11-30	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2024-12-31	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2025-01-31	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2025-02-28	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2025-03-31	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2025-04-30	0.0	0.0	5600.0	5600.0	0.0	0.0	0.0	0.0
2025-05-31	0.0	0.0	0.0	5600.0	0.0	0.0	0.0	0.0
2025-06-30	0.0	0.0	0.0	5600.0	0.0	0.0	0.0	0.0

In [ ]:

3) 분양 현금흐름 계산 함수 만들기

In [46]:
```
def 현금스케줄(분양률가정, 대금납입일정):
    rslt = DataFrame(index = idx)
    rslt['계약율'] = 분양률가정
    rslt['납입율'] = 대금납입일정
    rslt = rslt.fillna(0.0)

    rslt[['계약율누적', '납입율누적']] = rslt.cumsum()
    rslt['현금율누적'] = rslt['계약율누적'] * rslt['납입율누적']
    rslt['현금율유입'] = rslt['현금율누적'].diff()
    rslt = rslt.fillna(0.0)

    return rslt
```

In [47]:
```
현금스케줄_오피2 = 현금스케줄(분양률가정['오피'], 대금납입일정['오피'])
```

In [48]:
```
현금스케줄_오피2
```

Out[48]:

	계약율	납입율	계약율누적	납입율누적	현금율누적	현금율유입
2023-01-31	0.0	0.0	0.0	0.0	0.00	0.00
2023-02-28	0.0	0.0	0.0	0.0	0.00	0.00
2023-03-31	0.0	0.0	0.0	0.0	0.00	0.00
2023-04-30	0.2	0.1	0.2	0.1	0.02	0.02
2023-05-31	0.0	0.0	0.2	0.1	0.02	0.00
2023-06-30	0.0	0.0	0.2	0.1	0.02	0.00
2023-07-31	0.0	0.0	0.2	0.1	0.02	0.00
2023-08-31	0.0	0.0	0.2	0.1	0.02	0.00
2023-09-30	0.0	0.1	0.2	0.2	0.04	0.02
2023-10-31	0.2	0.0	0.4	0.2	0.08	0.04
2023-11-30	0.0	0.0	0.4	0.2	0.08	0.00
2023-12-31	0.0	0.0	0.4	0.2	0.08	0.00
2024-01-31	0.0	0.0	0.4	0.2	0.08	0.00
2024-02-29	0.0	0.1	0.4	0.3	0.12	0.04
2024-03-31	0.0	0.0	0.4	0.3	0.12	0.00
2024-04-30	0.2	0.0	0.6	0.3	0.18	0.06
2024-05-31	0.0	0.0	0.6	0.3	0.18	0.00
2024-06-30	0.0	0.0	0.6	0.3	0.18	0.00
2024-07-31	0.0	0.1	0.6	0.4	0.24	0.06
2024-08-31	0.0	0.0	0.6	0.4	0.24	0.00
2024-09-30	0.0	0.0	0.6	0.4	0.24	0.00
2024-10-31	0.2	0.0	0.8	0.4	0.32	0.08
2024-11-30	0.0	0.0	0.8	0.4	0.32	0.00
2024-12-31	0.0	0.1	0.8	0.5	0.40	0.08
2025-01-31	0.0	0.0	0.8	0.5	0.40	0.00
2025-02-28	0.0	0.0	0.8	0.5	0.40	0.00
2025-03-31	0.0	0.0	0.8	0.5	0.40	0.00
2025-04-30	0.2	0.5	1.0	1.0	1.00	0.60
2025-05-31	0.0	0.0	1.0	1.0	1.00	0.00
2025-06-30	0.0	0.0	1.0	1.0	1.00	0.00

In [ ]:

4) 분양률 시나리오 분석

In [49]:
```
분양률가정시나리오 = {}

분양률가정시나리오[1] = DataFrame({
    '오피': [   0.2,     0.2,     0.2,      0.2,     0.2],
    '근생': [   0.0,     0.0,     0.0,      0.0,     1.0],
}, index=  [idx.sales[0], idx.sales[6], idx.sales[12], idx.sales[18
], idx.sales[-1]])

분양률가정시나리오[2] = DataFrame({
    '오피': [   1.0,     0.0,     0.0,      0.0,     0.0],
    '근생': [   1.0,     0.0,     0.0,      0.0,     0.0],
}, index=  [idx.sales[0], idx.sales[6], idx.sales[12], idx.sales[18
], idx.sales[-1]])

분양률가정시나리오[3] = DataFrame({
    '오피': [   0.0,     0.0,     0.0,      0.0,     1.0],
    '근생': [   0.0,     0.0,     0.0,      0.0,     1.0],
}, index=  [idx.sales[0], idx.sales[6], idx.sales[12], idx.sales[18
], idx.sales[-1]])
```

In [50]:
```
분양률가정 = 분양률가정시나리오[1]
분양률가정['계약오피'] = 분양률가정['오피'] * 분양테이블['오피']['매출소계'].sum()
분양률가정['계약근생'] = 분양률가정['근생'] * 분양테이블['근생']['매출소계'].sum()
분양률가정['계약소계'] = 분양률가정['계약오피'] + 분양률가정['계약근생']
```

In [51]:
```
분양률가정
```

Out[51]:

	오피	근생	계약오피	계약근생	계약소계
2023-04-30	0.2	0.0	13032.0	0.0	13032.0
2023-10-31	0.2	0.0	13032.0	0.0	13032.0
2024-04-30	0.2	0.0	13032.0	0.0	13032.0
2024-10-31	0.2	0.0	13032.0	0.0	13032.0
2025-04-30	0.2	1.0	13032.0	5600.0	18632.0

In [ ]:
```

```

5. Sales Account 함수 설정

In [52]:
```
@Setattr(sales.dct)
def get_salesamt(sls, acc, idxno):
    amt = sls.scd_out[idxno]
    sls.send(idxno, amt, acc, note=f"분양매출({sls.name})")
    return amt
```

In [53]:
```
oprtg = Account(idx)
```

In [54]:
```
sales.오피.get_salesamt(oprtg, idx[3])
```

Out[54]:
```
1303.2000000000003
```

In [55]:
```
oprtg.df
```

Out[55]:

	bal_strt	amt_in	amt_out	bal_end
2023-01-31	0.0	0.0	0.0	0.0
2023-02-28	0.0	0.0	0.0	0.0
2023-03-31	0.0	0.0	0.0	0.0
2023-04-30	0.0	1303.2	0.0	1303.2
2023-05-31	1303.2	0.0	0.0	1303.2
2023-06-30	1303.2	0.0	0.0	1303.2
2023-07-31	1303.2	0.0	0.0	1303.2
2023-08-31	1303.2	0.0	0.0	1303.2
2023-09-30	1303.2	0.0	0.0	1303.2
2023-10-31	1303.2	0.0	0.0	1303.2
2023-11-30	1303.2	0.0	0.0	1303.2
2023-12-31	1303.2	0.0	0.0	1303.2
2024-01-31	1303.2	0.0	0.0	1303.2
2024-02-29	1303.2	0.0	0.0	1303.2
2024-03-31	1303.2	0.0	0.0	1303.2
2024-04-30	1303.2	0.0	0.0	1303.2
2024-05-31	1303.2	0.0	0.0	1303.2
2024-06-30	1303.2	0.0	0.0	1303.2
2024-07-31	1303.2	0.0	0.0	1303.2
2024-08-31	1303.2	0.0	0.0	1303.2
2024-09-30	1303.2	0.0	0.0	1303.2
2024-10-31	1303.2	0.0	0.0	1303.2
2024-11-30	1303.2	0.0	0.0	1303.2
2024-12-31	1303.2	0.0	0.0	1303.2
2025-01-31	1303.2	0.0	0.0	1303.2
2025-02-28	1303.2	0.0	0.0	1303.2
2025-03-31	1303.2	0.0	0.0	1303.2
2025-04-30	1303.2	0.0	0.0	1303.2
2025-05-31	1303.2	0.0	0.0	1303.2
2025-06-30	1303.2	0.0	0.0	1303.2

In [ ]: