[4-4. 현금흐름 계산4]

1. 필요한 모듈 import

- 기존 작성한 모듈 및 필요 파일 확인
  - FCHotel_FSmodeling_assumption.xlsx
  - m00_general_function.py
  - m01_assumption.py
  - m02_index.py
  - m03_funding.py
  - m04_operating_income.py
  - m05_operating_cost.py
  - m06_facility_cost.py

```python
import pandas as pd
pd.set_option('display.max_rows', 30)
pd.set_option('display.max_columns', 100)
pd.set_option('display.max_colwidth', 20)
pd.set_option('display.width', 300)

# DataFrame의 출력을 확장하여 한 줄로 계속 출력되도록 설정
pd.set_option('display.expand_frame_repr', True)

from m00_general_function import df_seperator
from m01_assumption import assumption
from m02_index import index
from m03_funding import funding
from m04_operating_income import operating_income
from m05_operating_cost import operating_cost
from m06_facility_cost import facility_cost
```

2. 차입원리금 상환 현금흐름 작성

2-1. funding['차입금'] 객체 확인

```python
funding['차입금']
```

Out[ ]:

	차입금유입	차입금상환	차입이자	차입금잔액
2023-12-31	10000000000	0	0	10000000000
2024-01-31	0	0	42349730	10000000000
2024-02-29	0	0	39617490	10000000000
2024-03-31	0	50000000	42349730	9950000000
2024-04-30	0	0	40778690	9950000000
...	...	...	...	...
2026-09-30	0	50000000	39041100	9450000000
2026-10-31	0	0	40130140	9450000000
2026-11-30	0	0	38835620	9450000000
2026-12-31	0	50000000	40130140	9400000000
2027-01-31	0	0	0	9400000000

38 rows × 4 columns

2-2. 차입금 객체의 현금흐름 반영

In [ ]:
```python
#### cashflow, balance 객체 초기화 ####
cashflow = pd.DataFrame(
    columns = ['date', 'categoryA', 'categoryB', 'categoryC', '입금금액', '출금금액']
)

balance = pd.DataFrame({
    '기초현금': [0] * len(index['model']),
    '입금금액': [0] * len(index['model']),
    '출금금액': [0] * len(index['model']),
```

```python
        '기말현금': [0] * len(index['model']),
    },
        index=index['model']
)
room_type_list = list(assumption['business_overview']['객실수'].keys())


#### cashflow, balance 작성 ####
idx = 0
cash_balance = 0
for dt in index['model']:
    #### 0. 기초현금 계산
    balance.loc[dt, '기초현금'] = cash_balance

    #### 1. 자금조달소요
    ## 1-1. 자기자본 유입
    amount = funding['자기자본'].loc[dt, '자기자본유입']
    if amount > 0:
        cashflow.loc[idx] = [dt, '자금조달', '자기자본', '자기자본유입', amount, 0]
        balance.loc[dt, '입금금액'] += amount
        idx += 1

    ## 1-2. 차입금 유입
    amount = funding['차입금'].loc[dt, '차입금유입']
    if amount > 0:
        cashflow.loc[idx] = [dt, '자금조달', '차입금', '차입금유입', amount, 0]
        balance.loc[dt, '입금금액'] += amount
        idx += 1

    ## 1-3. 자산매입
    amount = funding['자산매입'].loc[dt, '자산매입']
    if amount > 0:
        cashflow.loc[idx] = [dt, '자산매입', '자산매입', '매입대금지출', 0, amount]
        balance.loc[dt, '출금금액'] += amount
        idx += 1
```

```python
    amount = funding['자산매입'].loc[dt, '매입부수비용']
    if amount > 0:
        cashflow.loc[idx] = [dt, '자산매입', '매입부수비용', '부수비용지출', 0, amount]
        balance.loc[dt, '출금금액'] += amount
        idx += 1

    #### 2. 운영수입
    for room_type in room_type_list:
        amount = operating_income[room_type].loc[dt, '객실수입']
        if amount > 0:
            cashflow.loc[idx] = [dt, '운영수입', '객실수입', room_type, amount, 0]
            balance.loc[dt, '입금금액'] += amount
            idx += 1

    #### 3. 운영비용 - 객실운영비
    ## 3-1. 청소세탁비
    for room_type in room_type_list:
        amount = operating_cost['객실운영비']['청소세탁비'].loc[dt, room_type]
        if amount > 0:
            cashflow.loc[idx] = [dt, '객실운영비', '청소세탁비', room_type, 0, amount]
            balance.loc[dt, '출금금액'] += amount
            idx += 1

    ## 3-2. 수도광열비
    for room_type in room_type_list:
        amount = operating_cost['객실운영비']['수도광열비'].loc[dt, room_type]
        if amount > 0:
            cashflow.loc[idx] = [dt, '객실운영비', '수도광열비', room_type, 0, amount]
            balance.loc[dt, '출금금액'] += amount
            idx += 1

    amount = operating_cost['객실운영비']['수도광열비'].loc[dt, 'Overhead']
    if amount > 0:
        cashflow.loc[idx] = [dt, '객실운영비', '수도광열비', 'Overhead', 0, amount]
        balance.loc[dt, '출금금액'] += amount
```

```python
        idx += 1

## 3-3. 예약수수료
for room_type in room_type_list:
    amount = operating_cost['객실운영비']['예약수수료'].loc[dt, room_type]
    if amount > 0:
        cashflow.loc[idx] = [dt, '객실운영비', '예약수수료', room_type, 0, amount]
        balance.loc[dt, '출금금액'] += amount
        idx += 1

#### 4. 운영비용 - 관리운영비
## 4-1. 광고홍보비
amount = operating_cost['관리운영비']['관리운영비'].loc[dt, '광고홍보비']
if amount > 0:
    cashflow.loc[idx] = [dt, '관리운영비', '관리운영비', '광고홍보비', 0, amount]
    balance.loc[dt, '출금금액'] += amount
    idx += 1

## 4-2. 기타운영비
amount = operating_cost['관리운영비']['관리운영비'].loc[dt, '기타운영비']
if amount > 0:
    cashflow.loc[idx] = [dt, '관리운영비', '관리운영비', '기타운영비', 0, amount]
    balance.loc[dt, '출금금액'] += amount
    idx += 1

#### 5. 운영비용 - 인건비
## 5-1. 객실운영팀
amount = operating_cost['인건비']['객실운영팀'].loc[dt, '정규직']
if amount > 0:
    cashflow.loc[idx] = [dt, '인건비', '객실운영팀', '정규직', 0, amount]
    balance.loc[dt, '출금금액'] += amount
    idx += 1
amount = operating_cost['인건비']['객실운영팀'].loc[dt, '임시직']
if amount > 0:
    cashflow.loc[idx] = [dt, '인건비', '객실운영팀', '임시직', 0, amount]
```

```python
        balance.loc[dt, '출금금액'] += amount
        idx += 1

## 5-2. 경영지원팀
amount = operating_cost['인건비']['경영지원팀'].loc[dt, '정규직']
if amount > 0:
    cashflow.loc[idx] = [dt, '인건비', '경영지원팀', '정규직', 0, amount]
    balance.loc[dt, '출금금액'] += amount
    idx += 1
amount = operating_cost['인건비']['경영지원팀'].loc[dt, '임원']
if amount > 0:
    cashflow.loc[idx] = [dt, '인건비', '경영지원팀', '임원', 0, amount]
    balance.loc[dt, '출금금액'] += amount
    idx += 1

## 5-3. 마케팅팀
amount = operating_cost['인건비']['마케팅팀'].loc[dt, '정규직']
if amount > 0:
    cashflow.loc[idx] = [dt, '인건비', '마케팅팀', '정규직', 0, amount]
    balance.loc[dt, '출금금액'] += amount
    idx += 1

## 5-4. 시설관리팀
amount = operating_cost['인건비']['시설관리팀'].loc[dt, '정규직']
if amount > 0:
    cashflow.loc[idx] = [dt, '인건비', '시설관리팀', '정규직', 0, amount]
    balance.loc[dt, '출금금액'] += amount
    idx += 1
amount = operating_cost['인건비']['시설관리팀'].loc[dt, '임시직']
if amount > 0:
    cashflow.loc[idx] = [dt, '인건비', '시설관리팀', '임시직', 0, amount]
    balance.loc[dt, '출금금액'] += amount
    idx += 1

#### 6. 시설관리비
```

```python
## 6-1. 통상수선비
for room_type in room_type_list:
    amount = facility_cost['통상수선비'].loc[dt, room_type]
    if amount > 0:
        cashflow.loc[idx] = [dt, '시설관리비', '통상수선비', room_type, 0, amount]
        balance.loc[dt, '출금금액'] += amount
        idx += 1

## 6-2. 대수선공사비
for room_type in room_type_list:
    amount = facility_cost['대수선공사비'].loc[dt, room_type]
    if amount > 0:
        cashflow.loc[idx] = [dt, '시설관리비', '대수선공사비', room_type, 0, amount]
        balance.loc[dt, '출금금액'] += amount
        idx += 1

#### 7. 차입원리금 상환
## 7-1. 차입원금 상환
amount = funding['차입금'].loc[dt, '차입금상환']
if amount > 0:
    cashflow.loc[idx] = [dt, '차입원리금상환', '차입금', '차입금상환', 0, amount]
    balance.loc[dt, '출금금액'] += amount
    idx += 1

## 7-2. 차입이자 상환
amount = funding['차입금'].loc[dt, '차입이자']
if amount > 0:
    cashflow.loc[idx] = [dt, '차입원리금상환', '차입금', '차입이자', 0, amount]
    balance.loc[dt, '출금금액'] += amount
    idx += 1


#### 9. 기말현금 계산
cash_balance = (
    balance.loc[dt, '기초현금'] + balance.loc[dt, '입금금액'] - balance.loc[dt, '출금금액']
```

```
        )
        balance.loc[dt, '기말현금'] = cash_balance
```

In [ ]:
```
cashflow[cashflow['categoryA']=='차입원리금상환']
```

Out[ ]:

	date	categoryA	categoryB	categoryC	입금금액	출금금액
39	2024-01-31	차입원리금상환	차입금	차입이자	0	42349730
65	2024-02-29	차입원리금상환	차입금	차입이자	0	39617490
91	2024-03-31	차입원리금상환	차입금	차입금상환	0	50000000
92	2024-03-31	차입원리금상환	차입금	차입이자	0	42349730
118	2024-04-30	차입원리금상환	차입금	차입이자	0	40778690
...	...	...	...	...	...	...
870	2026-09-30	차입원리금상환	차입금	차입이자	0	39041100
896	2026-10-31	차입원리금상환	차입금	차입이자	0	40130140
922	2026-11-30	차입원리금상환	차입금	차입이자	0	38835620
948	2026-12-31	차입원리금상환	차입금	차입금상환	0	50000000
949	2026-12-31	차입원리금상환	차입금	차입이자	0	40130140

48 rows × 6 columns

3. 배당금 지급 현금흐름 작성

3-1. 배당금 계산 전 현금 잔액 계산

In [ ]:
```
#### cashflow, balance 객체 초기화 ####
cashflow = pd.DataFrame(
```

```python
    columns = ['date', 'categoryA', 'categoryB', 'categoryC', '입금금액', '출금금액']
)

balance = pd.DataFrame({
    '기초현금': [0] * len(index['model']),
    '입금금액': [0] * len(index['model']),
    '출금금액': [0] * len(index['model']),
    '기말현금': [0] * len(index['model']),
},
    index=index['model']
)
room_type_list = list(assumption['business_overview']['객실수'].keys())


#### cashflow, balance 작성 ####
idx = 0
cash_balance = 0
for dt in index['model']:
    #### 0. 기초현금 계산
    balance.loc[dt, '기초현금'] = cash_balance

    #### 1. 자금조달소요
    ## 1-1. 자기자본 유입
    amount = funding['자기자본'].loc[dt, '자기자본유입']
    if amount > 0:
        cashflow.loc[idx] = [dt, '자금조달', '자기자본', '자기자본유입', amount, 0]
        balance.loc[dt, '입금금액'] += amount
        idx += 1

    ## 1-2. 차입금 유입
    amount = funding['차입금'].loc[dt, '차입금유입']
    if amount > 0:
        cashflow.loc[idx] = [dt, '자금조달', '차입금', '차입금유입', amount, 0]
        balance.loc[dt, '입금금액'] += amount
        idx += 1
```

```python
## 1-3. 자산매입
amount = funding['자산매입'].loc[dt, '자산매입']
if amount > 0:
    cashflow.loc[idx] = [dt, '자산매입', '자산매입', '매입대금지출', 0, amount]
    balance.loc[dt, '출금금액'] += amount
    idx += 1
amount = funding['자산매입'].loc[dt, '매입부수비용']
if amount > 0:
    cashflow.loc[idx] = [dt, '자산매입', '매입부수비용', '부수비용지출', 0, amount]
    balance.loc[dt, '출금금액'] += amount
    idx += 1

#### 2. 운영수입
for room_type in room_type_list:
    amount = operating_income[room_type].loc[dt, '객실수입']
    if amount > 0:
        cashflow.loc[idx] = [dt, '운영수입', '객실수입', room_type, amount, 0]
        balance.loc[dt, '입금금액'] += amount
        idx += 1

#### 3. 운영비용 - 객실운영비
## 3-1. 청소세탁비
for room_type in room_type_list:
    amount = operating_cost['객실운영비']['청소세탁비'].loc[dt, room_type]
    if amount > 0:
        cashflow.loc[idx] = [dt, '객실운영비', '청소세탁비', room_type, 0, amount]
        balance.loc[dt, '출금금액'] += amount
        idx += 1

## 3-2. 수도광열비
for room_type in room_type_list:
    amount = operating_cost['객실운영비']['수도광열비'].loc[dt, room_type]
    if amount > 0:
        cashflow.loc[idx] = [dt, '객실운영비', '수도광열비', room_type, 0, amount]
```

```python
            balance.loc[dt, '출금금액'] += amount
            idx += 1

    amount = operating_cost['객실운영비']['수도광열비'].loc[dt, 'Overhead']
    if amount > 0:
        cashflow.loc[idx] = [dt, '객실운영비', '수도광열비', 'Overhead', 0, amount]
        balance.loc[dt, '출금금액'] += amount
        idx += 1

    ## 3-3. 예약수수료
    for room_type in room_type_list:
        amount = operating_cost['객실운영비']['예약수수료'].loc[dt, room_type]
        if amount > 0:
            cashflow.loc[idx] = [dt, '객실운영비', '예약수수료', room_type, 0, amount]
            balance.loc[dt, '출금금액'] += amount
            idx += 1

    #### 4. 운영비용 - 관리운영비
    ## 4-1. 광고홍보비
    amount = operating_cost['관리운영비']['관리운영비'].loc[dt, '광고홍보비']
    if amount > 0:
        cashflow.loc[idx] = [dt, '관리운영비', '관리운영비', '광고홍보비', 0, amount]
        balance.loc[dt, '출금금액'] += amount
        idx += 1

    ## 4-2. 기타운영비
    amount = operating_cost['관리운영비']['관리운영비'].loc[dt, '기타운영비']
    if amount > 0:
        cashflow.loc[idx] = [dt, '관리운영비', '관리운영비', '기타운영비', 0, amount]
        balance.loc[dt, '출금금액'] += amount
        idx += 1

    #### 5. 운영비용 - 인건비
    ## 5-1. 객실운영팀
    amount = operating_cost['인건비']['객실운영팀'].loc[dt, '정규직']
```

```python
    if amount > 0:
        cashflow.loc[idx] = [dt, '인건비', '객실운영팀', '정규직', 0, amount]
        balance.loc[dt, '출금금액'] += amount
        idx += 1
amount = operating_cost['인건비']['객실운영팀'].loc[dt, '임시직']
if amount > 0:
    cashflow.loc[idx] = [dt, '인건비', '객실운영팀', '임시직', 0, amount]
    balance.loc[dt, '출금금액'] += amount
    idx += 1

## 5-2. 경영지원팀
amount = operating_cost['인건비']['경영지원팀'].loc[dt, '정규직']
if amount > 0:
    cashflow.loc[idx] = [dt, '인건비', '경영지원팀', '정규직', 0, amount]
    balance.loc[dt, '출금금액'] += amount
    idx += 1
amount = operating_cost['인건비']['경영지원팀'].loc[dt, '임원']
if amount > 0:
    cashflow.loc[idx] = [dt, '인건비', '경영지원팀', '임원', 0, amount]
    balance.loc[dt, '출금금액'] += amount
    idx += 1

## 5-3. 마케팅팀
amount = operating_cost['인건비']['마케팅팀'].loc[dt, '정규직']
if amount > 0:
    cashflow.loc[idx] = [dt, '인건비', '마케팅팀', '정규직', 0, amount]
    balance.loc[dt, '출금금액'] += amount
    idx += 1

## 5-4. 시설관리팀
amount = operating_cost['인건비']['시설관리팀'].loc[dt, '정규직']
if amount > 0:
    cashflow.loc[idx] = [dt, '인건비', '시설관리팀', '정규직', 0, amount]
    balance.loc[dt, '출금금액'] += amount
    idx += 1
```

```python
    amount = operating_cost['인건비']['시설관리팀'].loc[dt, '임시직']
    if amount > 0:
        cashflow.loc[idx] = [dt, '인건비', '시설관리팀', '임시직', 0, amount]
        balance.loc[dt, '출금금액'] += amount
        idx += 1

#### 6. 시설관리비
## 6-1. 통상수선비
for room_type in room_type_list:
    amount = facility_cost['통상수선비'].loc[dt, room_type]
    if amount > 0:
        cashflow.loc[idx] = [dt, '시설관리비', '통상수선비', room_type, 0, amount]
        balance.loc[dt, '출금금액'] += amount
        idx += 1

## 6-2. 대수선공사비
for room_type in room_type_list:
    amount = facility_cost['대수선공사비'].loc[dt, room_type]
    if amount > 0:
        cashflow.loc[idx] = [dt, '시설관리비', '대수선공사비', room_type, 0, amount]
        balance.loc[dt, '출금금액'] += amount
        idx += 1

#### 7. 차입원리금 상환
## 7-1. 차입원금 상환
amount = funding['차입금'].loc[dt, '차입금상환']
if amount > 0:
    cashflow.loc[idx] = [dt, '차입원리금상환', '차입금', '차입금상환', 0, amount]
    balance.loc[dt, '출금금액'] += amount
    idx += 1

## 7-2. 차입이자 상환
amount = funding['차입금'].loc[dt, '차입이자']
if amount > 0:
    cashflow.loc[idx] = [dt, '차입원리금상환', '차입금', '차입이자', 0, amount]
```

```python
        balance.loc[dt, '출금금액'] += amount
        idx += 1

    #### 8. 자기자본 배당
    ## 8-1. 배당 전 현금 잔액 계산
    cash_balance = balance.loc[dt, '기초현금'] + balance.loc[dt, '입금금액'] - balance.loc[dt, '출금금액']
    print(f"{dt}: {cash_balance}")


    #### 9. 기말현금 계산
    cash_balance = (
        balance.loc[dt, '기초현금'] + balance.loc[dt, '입금금액'] - balance.loc[dt, '출금금액']
    )
    balance.loc[dt, '기말현금'] = cash_balance
```

```
2023-12-31 00:00:00: 905871236
2024-01-31 00:00:00: 1144288339
2024-02-29 00:00:00: 1344733797
2024-03-31 00:00:00: 1425477400
2024-04-30 00:00:00: 1551466450
2024-05-31 00:00:00: 1687443803
2024-06-30 00:00:00: 1742048853
2024-07-31 00:00:00: 1990889456
2024-08-31 00:00:00: 2239730059
2024-09-30 00:00:00: 2320784029
2024-10-31 00:00:00: 2457184882
2024-11-30 00:00:00: 2562199772
2024-12-31 00:00:00: 2757777625
2025-01-31 00:00:00: 2991257469
2025-02-28 00:00:00: 3178809976
2025-03-31 00:00:00: 1975560704
2025-04-30 00:00:00: 604784793
2025-05-31 00:00:00: -338267669
2025-06-30 00:00:00: -287541820
2025-07-31 00:00:00: -43337316
2025-08-31 00:00:00: 200867188
```

```
2025-09-30 00:00:00: 277886997
2025-10-31 00:00:00: 410142795
2025-11-30 00:00:00: 511279604
2025-12-31 00:00:00: 701892178
2026-01-31 00:00:00: 930473433
2026-02-28 00:00:00: 1113561418
2026-03-31 00:00:00: 1186134228
2026-04-30 00:00:00: 1304171427
2026-05-31 00:00:00: 1431918154
2026-06-30 00:00:00: 1478828594
2026-07-31 00:00:00: 1718443499
2026-08-31 00:00:00: 1958058404
2026-09-30 00:00:00: 2031102619
2026-10-31 00:00:00: 2159273996
2026-11-30 00:00:00: 2256595396
2026-12-31 00:00:00: 2442278718
2027-01-31 00:00:00: 2336103520
```

3-2. 배당금 계산 및 현금흐름에 반영

```python
In [ ]:  #### cashflow, balance 객체 초기화 ####
cashflow = pd.DataFrame(
    columns = ['date', 'categoryA', 'categoryB', 'categoryC', '입금금액', '출금금액']
)

balance = pd.DataFrame({
    '기초현금': [0] * len(index['model']),
    '입금금액': [0] * len(index['model']),
    '출금금액': [0] * len(index['model']),
    '기말현금': [0] * len(index['model']),
},
    index=index['model']
)
room_type_list = list(assumption['business_overview']['객실수'].keys())
```

```python
#### cashflow, balance 작성 ####
idx = 0
cash_balance = 0
for dt in index['model']:
    #### 0. 기초현금 계산
    balance.loc[dt, '기초현금'] = cash_balance

    #### 1. 자금조달소요
    ## 1-1. 자기자본 유입
    amount = funding['자기자본'].loc[dt, '자기자본유입']
    if amount > 0:
        cashflow.loc[idx] = [dt, '자금조달', '자기자본', '자기자본유입', amount, 0]
        balance.loc[dt, '입금금액'] += amount
        idx += 1

    ## 1-2. 차입금 유입
    amount = funding['차입금'].loc[dt, '차입금유입']
    if amount > 0:
        cashflow.loc[idx] = [dt, '자금조달', '차입금', '차입금유입', amount, 0]
        balance.loc[dt, '입금금액'] += amount
        idx += 1

    ## 1-3. 자산매입
    amount = funding['자산매입'].loc[dt, '자산매입']
    if amount > 0:
        cashflow.loc[idx] = [dt, '자산매입', '자산매입', '매입대금지출', 0, amount]
        balance.loc[dt, '출금금액'] += amount
        idx += 1
    amount = funding['자산매입'].loc[dt, '매입부수비용']
    if amount > 0:
        cashflow.loc[idx] = [dt, '자산매입', '매입부수비용', '부수비용지출', 0, amount]
        balance.loc[dt, '출금금액'] += amount
        idx += 1
```

```python
#### 2. 운영수입
for room_type in room_type_list:
    amount = operating_income[room_type].loc[dt, '객실수입']
    if amount > 0:
        cashflow.loc[idx] = [dt, '운영수입', '객실수입', room_type, amount, 0]
        balance.loc[dt, '입금금액'] += amount
        idx += 1

#### 3. 운영비용 – 객실운영비
## 3-1. 청소세탁비
for room_type in room_type_list:
    amount = operating_cost['객실운영비']['청소세탁비'].loc[dt, room_type]
    if amount > 0:
        cashflow.loc[idx] = [dt, '객실운영비', '청소세탁비', room_type, 0, amount]
        balance.loc[dt, '출금금액'] += amount
        idx += 1

## 3-2. 수도광열비
for room_type in room_type_list:
    amount = operating_cost['객실운영비']['수도광열비'].loc[dt, room_type]
    if amount > 0:
        cashflow.loc[idx] = [dt, '객실운영비', '수도광열비', room_type, 0, amount]
        balance.loc[dt, '출금금액'] += amount
        idx += 1

amount = operating_cost['객실운영비']['수도광열비'].loc[dt, 'Overhead']
if amount > 0:
    cashflow.loc[idx] = [dt, '객실운영비', '수도광열비', 'Overhead', 0, amount]
    balance.loc[dt, '출금금액'] += amount
    idx += 1

## 3-3. 예약수수료
for room_type in room_type_list:
    amount = operating_cost['객실운영비']['예약수수료'].loc[dt, room_type]
```

```python
    if amount > 0:
        cashflow.loc[idx] = [dt, '객실운영비', '예약수수료', room_type, 0, amount]
        balance.loc[dt, '출금금액'] += amount
        idx += 1

#### 4. 운영비용 - 관리운영비
## 4-1. 광고홍보비
amount = operating_cost['관리운영비']['관리운영비'].loc[dt, '광고홍보비']
if amount > 0:
    cashflow.loc[idx] = [dt, '관리운영비', '관리운영비', '광고홍보비', 0, amount]
    balance.loc[dt, '출금금액'] += amount
    idx += 1

## 4-2. 기타운영비
amount = operating_cost['관리운영비']['관리운영비'].loc[dt, '기타운영비']
if amount > 0:
    cashflow.loc[idx] = [dt, '관리운영비', '관리운영비', '기타운영비', 0, amount]
    balance.loc[dt, '출금금액'] += amount
    idx += 1

#### 5. 운영비용 - 인건비
## 5-1. 객실운영팀
amount = operating_cost['인건비']['객실운영팀'].loc[dt, '정규직']
if amount > 0:
    cashflow.loc[idx] = [dt, '인건비', '객실운영팀', '정규직', 0, amount]
    balance.loc[dt, '출금금액'] += amount
    idx += 1
amount = operating_cost['인건비']['객실운영팀'].loc[dt, '임시직']
if amount > 0:
    cashflow.loc[idx] = [dt, '인건비', '객실운영팀', '임시직', 0, amount]
    balance.loc[dt, '출금금액'] += amount
    idx += 1

## 5-2. 경영지원팀
amount = operating_cost['인건비']['경영지원팀'].loc[dt, '정규직']
```

```python
    if amount > 0:
        cashflow.loc[idx] = [dt, '인건비', '경영지원팀', '정규직', 0, amount]
        balance.loc[dt, '출금금액'] += amount
        idx += 1
amount = operating_cost['인건비']['경영지원팀'].loc[dt, '임원']
if amount > 0:
    cashflow.loc[idx] = [dt, '인건비', '경영지원팀', '임원', 0, amount]
    balance.loc[dt, '출금금액'] += amount
    idx += 1

## 5-3. 마케팅팀
amount = operating_cost['인건비']['마케팅팀'].loc[dt, '정규직']
if amount > 0:
    cashflow.loc[idx] = [dt, '인건비', '마케팅팀', '정규직', 0, amount]
    balance.loc[dt, '출금금액'] += amount
    idx += 1

## 5-4. 시설관리팀
amount = operating_cost['인건비']['시설관리팀'].loc[dt, '정규직']
if amount > 0:
    cashflow.loc[idx] = [dt, '인건비', '시설관리팀', '정규직', 0, amount]
    balance.loc[dt, '출금금액'] += amount
    idx += 1
amount = operating_cost['인건비']['시설관리팀'].loc[dt, '임시직']
if amount > 0:
    cashflow.loc[idx] = [dt, '인건비', '시설관리팀', '임시직', 0, amount]
    balance.loc[dt, '출금금액'] += amount
    idx += 1

#### 6. 시설관리비
## 6-1. 통상수선비
for room_type in room_type_list:
    amount = facility_cost['통상수선비'].loc[dt, room_type]
    if amount > 0:
        cashflow.loc[idx] = [dt, '시설관리비', '통상수선비', room_type, 0, amount]
```

```python
            balance.loc[dt, '출금금액'] += amount
            idx += 1

    ## 6-2. 대수선공사비
    for room_type in room_type_list:
        amount = facility_cost['대수선공사비'].loc[dt, room_type]
        if amount > 0:
            cashflow.loc[idx] = [dt, '시설관리비', '대수선공사비', room_type, 0, amount]
            balance.loc[dt, '출금금액'] += amount
            idx += 1

    #### 7. 차입원리금 상환
    ## 7-1. 차입원금 상환
    amount = funding['차입금'].loc[dt, '차입금상환']
    if amount > 0:
        cashflow.loc[idx] = [dt, '차입원리금상환', '차입금', '차입금상환', 0, amount]
        balance.loc[dt, '출금금액'] += amount
        idx += 1

    ## 7-2. 차입이자 상환
    amount = funding['차입금'].loc[dt, '차입이자']
    if amount > 0:
        cashflow.loc[idx] = [dt, '차입원리금상환', '차입금', '차입이자', 0, amount]
        balance.loc[dt, '출금금액'] += amount
        idx += 1

    #### 8. 자기자본 배당
    ## 8-1. 배당 전 현금 잔액 계산
    cash_balance = balance.loc[dt, '기초현금'] + balance.loc[dt, '입금액'] - balance.loc[dt, '출금금액']

    ## 8-2. 배당금 지급
    if assumption['funding_assumptions']['equity']['최초배당일'] <= dt and dt.month == 12:
        cash_balance = max(cash_balance, 0)
        amount = int(round(cash_balance * assumption['funding_assumptions']['equity']['배당률'], -3))
        funding['자기자본'].loc[dt, '배당금지급'] = amount
```

```python
        cashflow.loc[idx] = [dt, '자기자본배당', '자기자본배당', '배당금지급', 0, amount]
        balance.loc[dt, '출금금액'] += amount
        idx += 1


    #### 9. 기말현금 계산
    cash_balance = (
        balance.loc[dt, '기초현금'] + balance.loc[dt, '입금금액'] - balance.loc[dt, '출금금액']
    )
    balance.loc[dt, '기말현금'] = cash_balance
```

In [ ]:
```python
df_seperator(funding['자기자본'][funding['자기자본']['배당금지급'] > 0])
```

Out[ ]:

	자기자본유입	배당금지급
2025-12-31	0	210,568,000
2026-12-31	0	669,513,000

In [ ]:
```python
df_seperator(cashflow[cashflow['categoryA']=='자기자본배당'])
```

Out[ ]:

	date	categoryA	categoryB	categoryC	입금금액	출금금액
634	2025-12-31	자기자본배당	자기자본배당	배당금지급	0	210,568,000
951	2026-12-31	자기자본배당	자기자본배당	배당금지급	0	669,513,000

4. 최종 계산 완료된 cashflow와 balance

In [ ]:
```python
df_seperator(cashflow)
```

Out[ ]:

	date	categoryA	categoryB	categoryC	입금금액	출금금액
0	2023-12-31	자금조달	자기자본	자기자본유입	10,000,000,000	0
1	2023-12-31	자금조달	차입금	차입금유입	10,000,000,000	0
2	2023-12-31	자산매입	자산매입	매입대금지출	0	18,000,000,000
3	2023-12-31	자산매입	매입부수비용	부수비용지출	0	1,000,000,000
4	2023-12-31	객실운영비	수도광열비	Overhead	0	3,000,000
...	...	...	...	...	...	...
957	2027-01-31	인건비	경영지원팀	정규직	0	10,618,434
958	2027-01-31	인건비	경영지원팀	임원	0	7,865,506
959	2027-01-31	인건비	마케팅팀	정규직	0	7,078,956
960	2027-01-31	인건비	시설관리팀	정규직	0	7,078,956
961	2027-01-31	인건비	시설관리팀	임시직	0	2,949,565

962 rows × 6 columns

In [ ]:
```python
df_seperator(cashflow[cashflow['date'].apply(lambda x: f'{x.year}-{x.month}') == '2025-1'])
```

Out[ ]:

	date	categoryA	categoryB	categoryC	입금금액	출금금액
330	2025-01-31	운영수입	객실수입	TypeA	145,080,000	0
331	2025-01-31	운영수입	객실수입	TypeB	167,400,000	0
332	2025-01-31	운영수입	객실수입	TypeC	131,750,000	0
333	2025-01-31	객실운영비	청소세탁비	TypeA	0	11,494,800
334	2025-01-31	객실운영비	청소세탁비	TypeB	0	13,793,760
335	2025-01-31	객실운영비	청소세탁비	TypeC	0	10,856,200

336	2025-01-31	객실운영비	수도광열비	TypeA	0	5,747,400
337	2025-01-31	객실운영비	수도광열비	TypeB	0	6,896,880
338	2025-01-31	객실운영비	수도광열비	TypeC	0	5,428,100
339	2025-01-31	객실운영비	수도광열비	Overhead	0	3,090,000
340	2025-01-31	객실운영비	예약수수료	TypeA	0	4,352,400
341	2025-01-31	객실운영비	예약수수료	TypeB	0	5,022,000
342	2025-01-31	객실운영비	예약수수료	TypeC	0	3,952,500
343	2025-01-31	관리운영비	관리운영비	광고홍보비	0	30,900,000
344	2025-01-31	관리운영비	관리운영비	기타운영비	0	10,300,000
345	2025-01-31	인건비	객실운영팀	정규직	0	16,052,054
346	2025-01-31	인건비	객실운영팀	임시직	0	5,350,684
347	2025-01-31	인건비	경영지원팀	정규직	0	9,631,232
348	2025-01-31	인건비	경영지원팀	임원	0	7,134,246
349	2025-01-31	인건비	마케팅팀	정규직	0	6,420,821
350	2025-01-31	인건비	시설관리팀	정규직	0	6,420,821
351	2025-01-31	인건비	시설관리팀	임시직	0	2,675,342
352	2025-01-31	시설관리비	통상수선비	TypeA	0	1,149,480
353	2025-01-31	시설관리비	통상수선비	TypeB	0	1,379,376
354	2025-01-31	시설관리비	통상수선비	TypeC	0	1,085,620
355	2025-01-31	차입원리금상환	차입금	차입이자	0	41,616,440

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In [ ]: df_seperator(balance)
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Out[ ]:

	기초현금	입금금액	출금금액	기말현금
2023-12-31	0	20,000,000,000	19,094,128,764	905,871,236
2024-01-31	905,871,236	444,230,000	205,812,897	1,144,288,339
2024-02-29	1,144,288,339	392,080,000	191,634,542	1,344,733,797
2024-03-31	1,344,733,797	305,040,000	224,296,397	1,425,477,400
2024-04-30	1,425,477,400	295,200,000	169,210,950	1,551,466,450
...	...	...	...	...
2026-09-30	1,747,490,404	301,200,000	228,155,785	1,820,534,619
2026-10-31	1,820,534,619	311,240,000	183,068,623	1,948,705,996
2026-11-30	1,948,705,996	268,800,000	171,478,600	2,046,027,396
2026-12-31	2,046,027,396	451,980,000	935,809,678	1,562,197,718
2027-01-31	1,562,197,718	0	106,175,198	1,456,022,520

38 rows × 4 columns

In [ ]: