

HO12

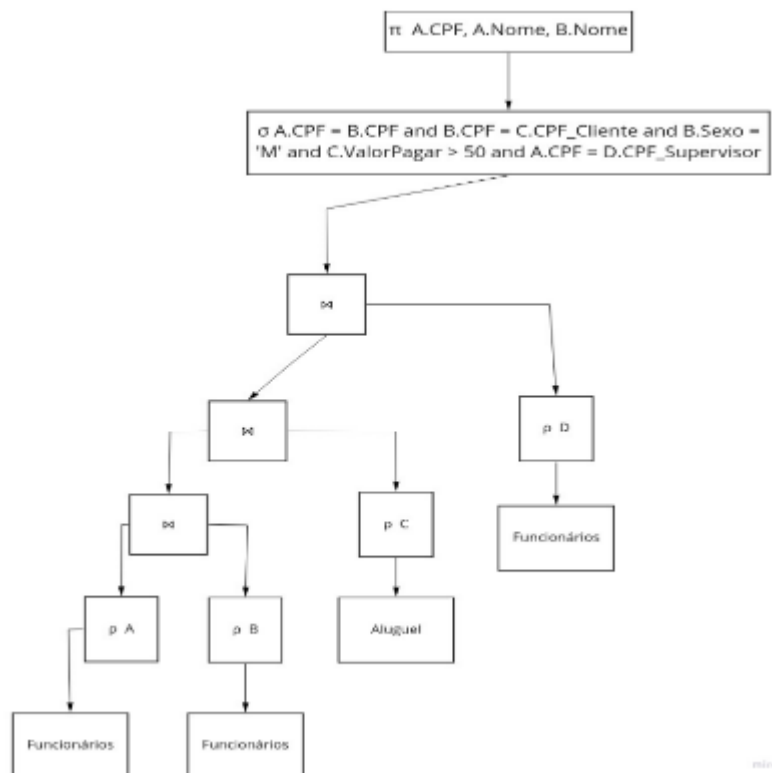
QUERY 1:

```
SELECT A.CPF, A.Nome, B.Nome
FROM Funcionarios A, Clientes B, Aluguel C, Funcionarios D
WHERE A.CPF=B.CPF
AND B.CPF=C.CPF_Cliente
AND B.Sexo="M"
AND C.ValorPagar>50
AND A.CPF=D.CPF_Supervisor
```

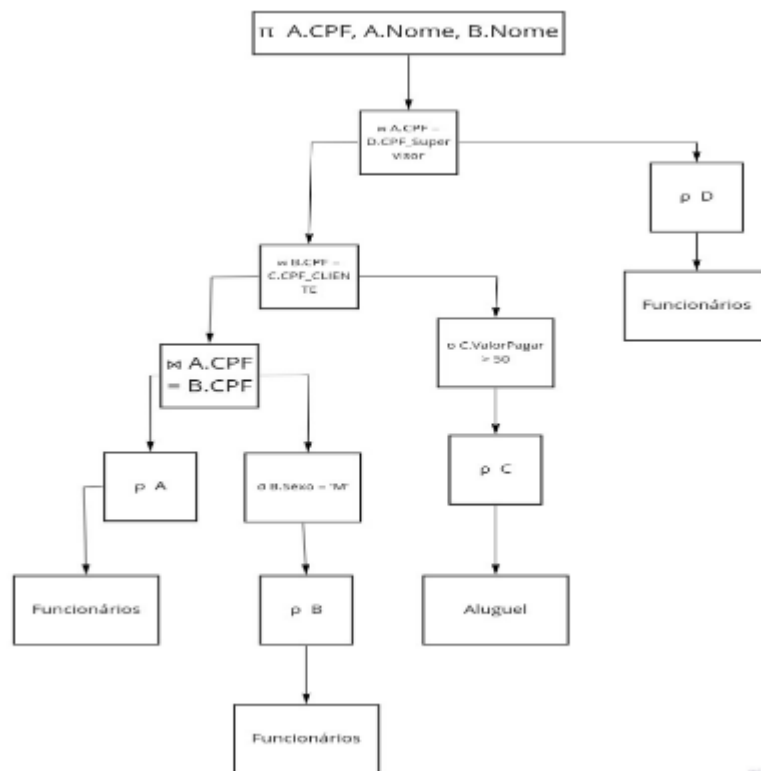
QUERY 1 EM RELAX:

$\pi A.Nome, C.Nome \sigma A.Codigo = B.CodFilme \text{ and } B.CodAtor = C.Codigo \text{ and } A.Genero = 'Aventura' \text{ and } A.Codigo = D.CodFilme \text{ and } D.PrecoDiaria > 10 ((\rho A Filmes \rho B AtoresEmFilmes) \rho C Atores) \rho D Midias)$

QUERY 1 - NÃO OTIMIZADA



QUERY 1 - OTIMIZADA



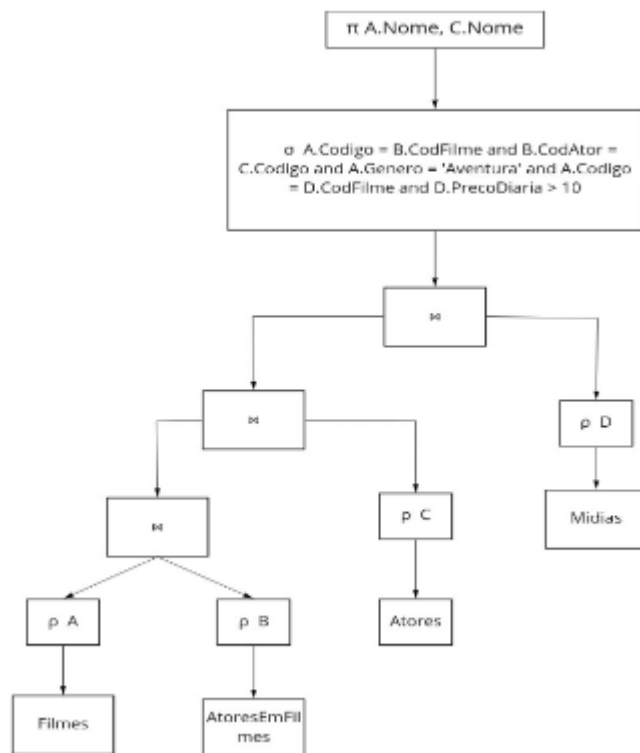
QUERY 2:

```
SELECT A.Nome, C.Nome
FROM Filmes A, AtoresEmFilmes B, Atores C, Midias D
WHERE A.Codigo=B.CodFilme
AND B.CodAtor=C.Codigo
AND A.Genero="Aventura"
AND A.Codigo=D.CodFilme
AND D.PrecoDiaria>10
```

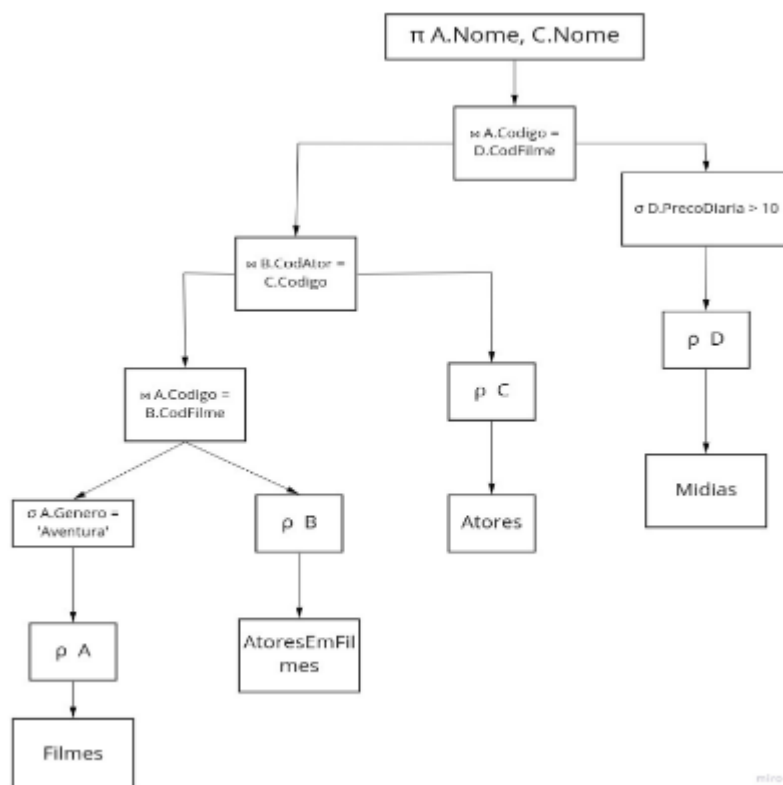
QUERY 2 EM RELAX:

$\pi A.Nome, C.Nome \sigma A.Codigo = B.CodFilme \text{ and } B.CodAtor = C.Codigo \text{ and } A.Genero = 'Aventura' \text{ and } A.Codigo = D.CodFilme \text{ and } D.PrecoDiaria > 10 ((\rho A \text{ Filmes } \rho B \text{ AtoresEmFilmes }) \rho C \text{ Atores }) \rho D \text{ Midias })$

QUERY 2 - NÃO OTIMIZADA



QUERY 2 - OTIMIZADA



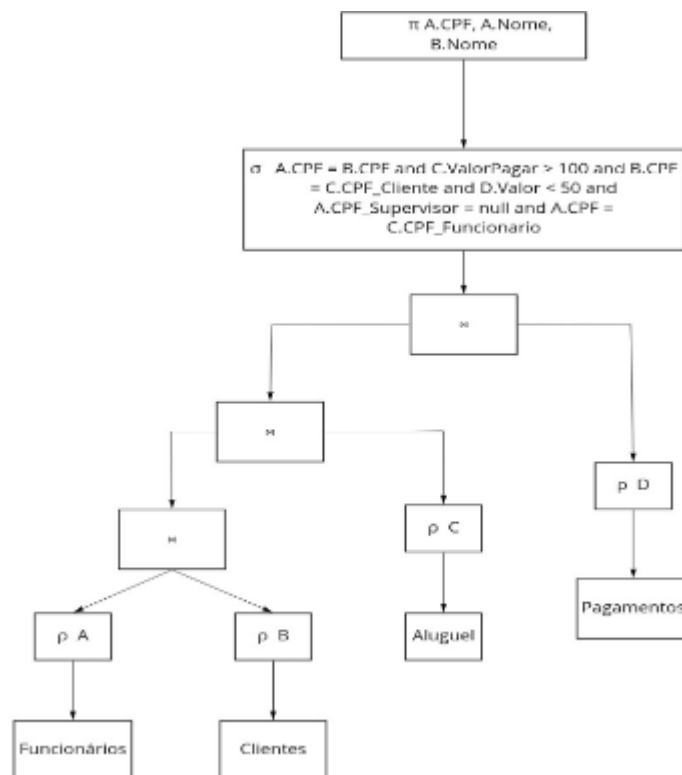
QUERY 3:

```
SELECT A.CPF, A.Nome, B.Nome
FROM Funcionarios A, Clientes B, Aluguel C, Pagamentos D
WHERE A.CPF=B.CPF
AND C.ValorPagar>100
AND B.CPF=C.CPF_Cliente
AND D.Valor<50
AND A.CPF_Supervisor IS NULL
AND A.CPF=C.CPF_Funcionario
```

QUERY 3 EM RELAX:

$\pi A.CPF, A.Nome, B.Nome \sigma A.CPF = B.CPF \text{ and } C.ValorPagar > 100 \text{ and } B.CPF = C.CPF_Cliente \text{ and } D.Valor < 50 \text{ and } A.CPF_Supervisor = \text{null} \text{ and } A.CPF = C.CPF_Funcionario ((\rho A \text{ Funcionarios } \bar{\rho} B \text{ Clientes}) \bar{\rho} C \text{ Aluguel}) \bar{\rho} D \text{ Pagamentos})$

QUERY 3 - NÃO OTIMIZADA



QUERY 3 - OTIMIZADA

