

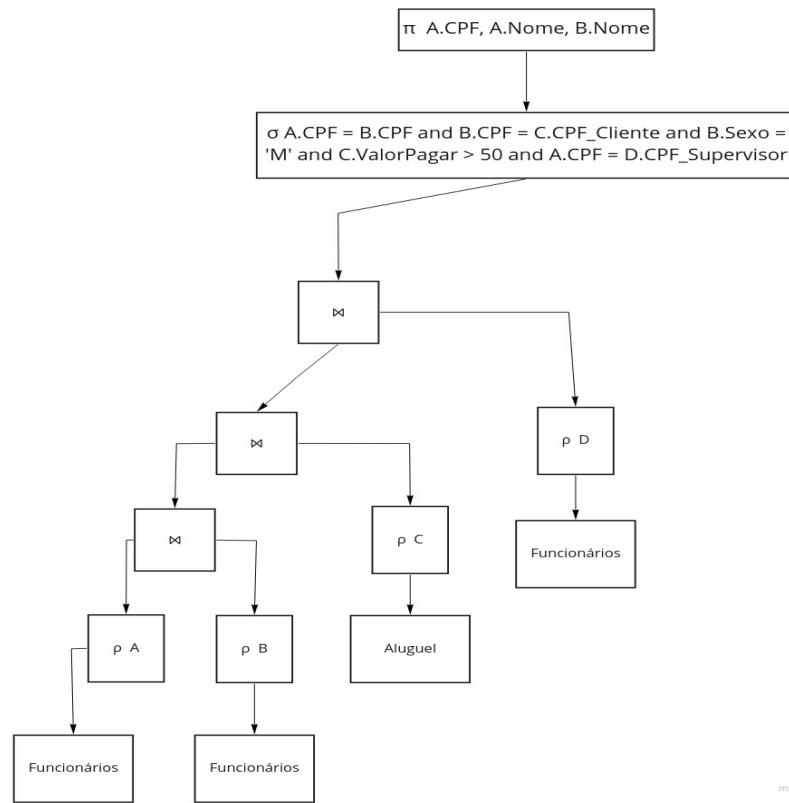
Query 1

```
SELECT A.CPF, A.Nome, B.Nome  
FROM Funcionarios as A, Clientes as B, Aluguel as C, Funcionarios as 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
```

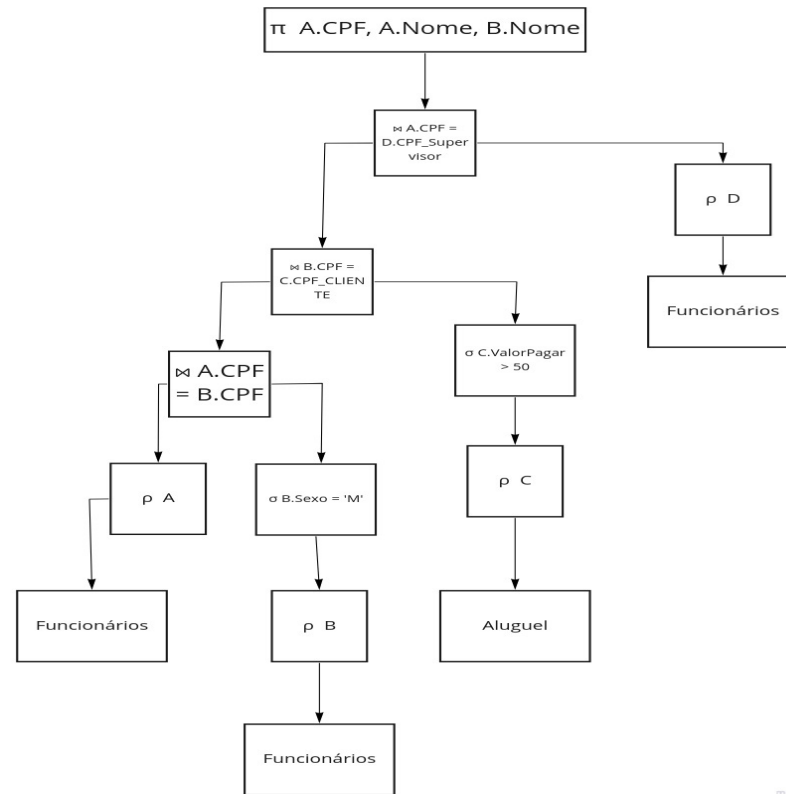
Query 1 em Relax

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

Query 1 – Árvore Não Otimizada



Query 1 – Árvore Otimizada



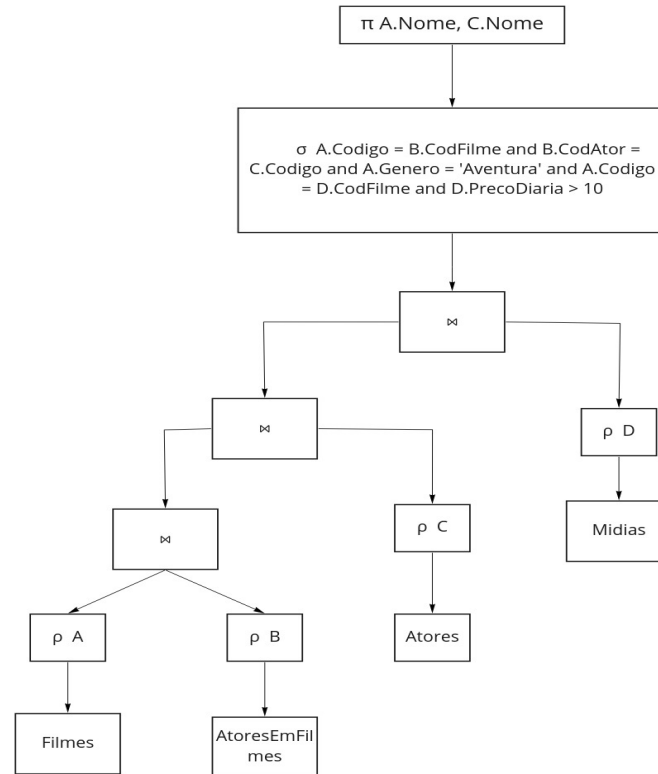
Query 2

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

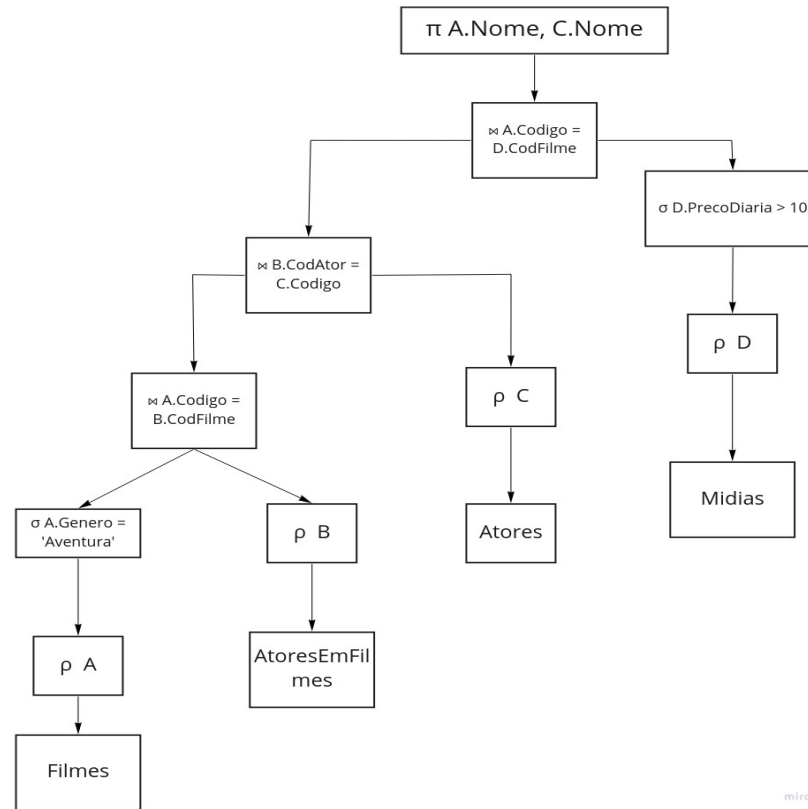
Query 2 em Relax

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

Query 2 - Árvore Não Otimizada



Query 2 – Árvore Otimizada



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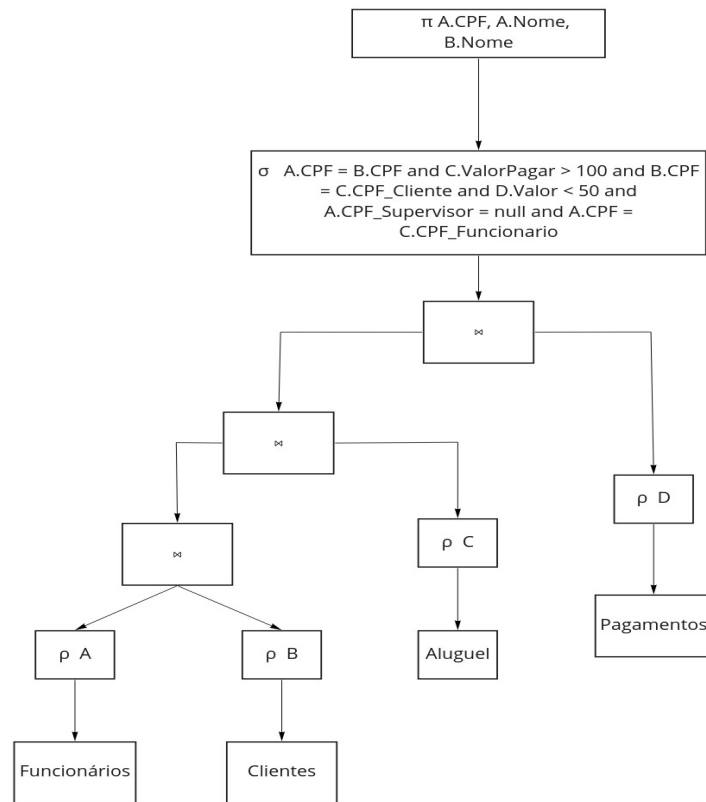
Query 3

```
SELECT A.CPF, A.Nome, B.Nome  
FROM Funcionarios as A, Clientes as B, Aluguel as C, Pagamentos as 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
```

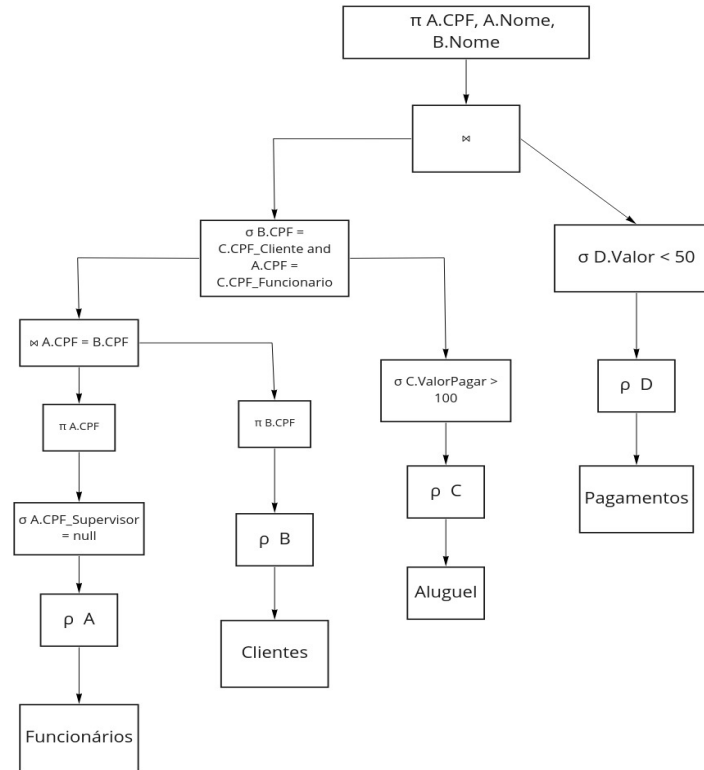
Query 3 em Relax

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

Query 3 – Árvore Não Otimizada



Query 3 – Árvore Otimizada



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