

TURNING

HORRIBLE JOINS

INTO

WONDERFUL

SPEEDUPS

CLUSTERED INDEXES

```
CREATE TABLE [dbo].[AC_Actor](
    [AC_ID] [int] IDENTITY(1,1) NOT NULL,
    [AC_Dummy] [bit] NULL,
    CONSTRAINT [pkAC_Actor] PRIMARY KEY CLUSTERED (
        [AC_ID] ASC
    )
);
CREATE TABLE [dbo].[AC_NAM_Actor_Name](
    [AC_NAM_AC_ID] [int] NOT NULL,
    [AC_NAM_Actor_Name] [varchar](42) NOT NULL,
    [AC_NAM_ChangedAt] [datetime] NOT NULL,
    CONSTRAINT [pkAC_NAM_Actor_Name] PRIMARY KEY CLUSTERED (
        [AC_NAM_AC_ID] ASC,
        [AC_NAM_ChangedAt] DESC
    ),
    CONSTRAINT [fkAC_NAM_Actor_Name] FOREIGN KEY ([AC_NAM_AC_ID])
REFERENCES [dbo].[AC_Actor] ([AC_ID])
);
```

ARRANGING
THE DATA
SO THAT
SORT
OPERATIONS
ARE AVOIDED

TABLE ELIMINATION

```
SELECT
    [GEN].AC_GEN_Actor_Gender
FROM
    [dbo].[AC_Actor] [AC]
LEFT JOIN
    [dbo].[rAC_NAM_Actor_Name] (@changingTimepoint) [NAM]
ON
    [NAM].AC_NAM_AC_ID = [AC].AC_ID
AND
    [NAM].AC_NAM_ChangedAt = (
        SELECT
            max(sub.AC_NAM_ChangedAt)
        FROM
            [dbo].[rAC_NAM_Actor_Name] (@changingTimepoint) sub
        WHERE
            sub.AC_NAM_AC_ID = [AC].AC_ID
    )
LEFT JOIN ...
```

PRIMARY
AND
FOREIGN
KEYS
MUST
BE
DEFINED

COLUMN STATISTICS

```
SELECT
    COUNT(*)
FROM
    [dbo].[pAC_Actor]('2009-09-21') [AC]
JOIN
    [dbo].[pAC_part_PR_in_RAT_got]('2009-09-21') [ACPR]
ON
    [ACPR].AC_ID_part = [AC].AC_ID
JOIN
    [dbo].[pPR_Program]('2009-09-21') [PR]
ON
    [PR].PR_ID = [ACPR].PR_ID_in
WHERE
    [AC].AC_GEN_Actor_Gender = 'Female'
AND
    [AC].AC_PLV_Actor_Professional_Level = 'Intermediate'
AND
    [ACPR].RAT_Rating = 'High'
```

CONDITIONS
ARE USED TO
DETERMINE
THE OPTIMAL
JOIN ORDER