Supplemental coding file 1

CREATE FUNCTION FN\_m (@a INT , @b INT , @c INT , @d INT ,@l BIT )

returnS int

AS

BEGIN

declare @r int

IF(@l=1 and @a>=@c) set @r= @a

IF(@l=1 and @a<@c) set @r= @c

IF(@l=0 and @B>=@D) set @r= @B

IF(@l=0 and @B<@D) set @r= @D

return (@r)

END

--CREATE TABLE TO HOLD THE IMPORANT FIELDS

CREATE TABLE #T ( Id INT IDENTITY , Chrom varchar(50) , YchromStart INT , YChromEnd INT , Score INT , ChromStart INT , ChromEnd INT , PStart INT , PEnd INT , IdTmp INT , ScoreFinal INT )

INSERT INTO #T(Chrom , YchromStart , YChromEnd , ChromStart , ChromEnd , Score , PStart , PEnd )

SELECT T.chrom , Y.chromStart ,Y.chromEnd ,T.chromStart,T.chromEnd , T.score , DBO.FN\_m(Y.chromStart,Y.chromEnd,T.chromStart,T.chromEnd,1) ,DBO.FN\_m(Y.chromStart,Y.chromEnd,T.chromStart,T.chromEnd,0)

FROM y1 Y

JOIN STAT3 T

ON Y.Chr=T.chrom

WHERE Y.chromStart BETWEEN T.chromStart AND T.chromEnd OR

Y.chromEnd BETWEEN T.chromStart AND T.chromEnd OR

T.chromStart BETWEEN Y.chromStart AND Y.chromEnd OR

T.chromEnd BETWEEN Y.chromStart AND Y.chromEnd

order by T.chrom , Y.chromStart ,Y.chromEnd , T.score

-- SET RUNNING INDEX ON EACH GOUPP OF SIMILAR START-END

DECLARE @YchromStart int

DECLARE @YChromEnd int

DECLARE @Id INT

DECLARE @C INT

SET @C=1

DECLARE CU CURSOR FOR SELECT Id , YchromStart,YChromEnd from #t order by chrom,YchromStart,score

open cu

fetch next from cu into @Id , @YchromStart,@YChromEnd

while(@@FETCH\_STATUS<>-1)

begin

UPDATE #T SET IdTmp = @C WHERE Id = @Id

SET @C = @C+1

IF NOT EXISTS (SELECT TOP 1 \* FROM #T WHERE YchromStart=@YchromStart AND YChromEnd = @YChromEnd AND ID>@Id)

SET @C=1

fetch next from cu into @Id , @YchromStart,@YChromEnd

end

close cu

deallocate cu

DECLARE @A int

DECLARE @B int

DECLARE @IdTmp INT

DECLARE @Score int

SET @C=1

DECLARE CU CURSOR FOR SELECT IdTmp , YchromStart , YChromEnd , Score from #t

open cu

fetch next from cu into @IdTmp , @YchromStart,@YChromEnd ,@Score

while(@@FETCH\_STATUS<>-1)

begin

-- FIND OUT HOW MANY REPEATES

SET @C = (SELECT COUNT(\*) FROM #T WHERE YchromStart = @YchromStart AND YChromEnd = @YChromEnd )

-- IF ONE REPEATE

IF(@C=1) UPDATE #T SET Scorefinal = @Score WHERE YchromStart = @YchromStart AND YChromEnd = @YChromEnd

-- IF THE NUMBER OF REPEATES IS ODD

IF(@C%2=0)

BEGIN

SET @C=@C/2

SET @A = (SELECT Score FROM #T WHERE IdTmp = @C AND YchromStart = @YchromStart AND YChromEnd = @YChromEnd)

SET @B = (SELECT Score FROM #T WHERE IdTmp = @C+1 AND YchromStart = @YchromStart AND YChromEnd = @YChromEnd)

UPDATE #T SET Scorefinal = (@A+@B)/2

WHERE YchromStart = @YchromStart AND YChromEnd = @YChromEnd

END

-- IF THE NUMBER OF REPEATES IS EVEN

IF(@C%2=1 AND @C>1)

BEGIN

SET @C=@C/2

SET @A = (SELECT Score FROM #T WHERE IdTmp = @C+1 AND YchromStart = @YchromStart AND YChromEnd = @YChromEnd)

UPDATE #T SET Scorefinal = @A

WHERE YchromStart = @YchromStart AND YChromEnd = @YChromEnd

END

fetch next from cu into @IdTmp , @YchromStart,@YChromEnd ,@Score

end

close cu

deallocate cu

-- THE FINAL TABLE

SELECT chrom ,PStart , PEnd , ScoreFinal

INTO TfINAL

FROM #T

ORDER BY chrom ,PStart , PEnd , ScoreFinal

select \* INTO t fROM #t