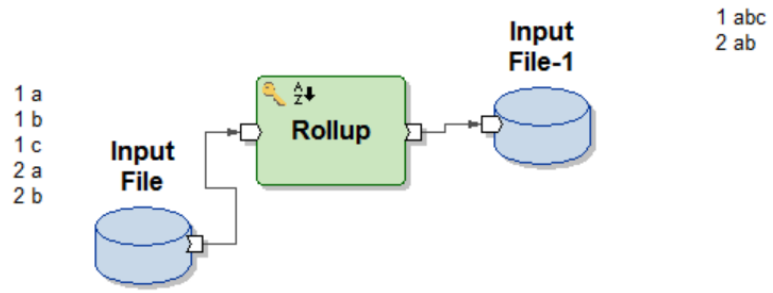
1 Accumulation function in rollup



Solution:-

Ip-DML

Record
String(“|”)id;
String(“\n”)data;
End;

Rollup

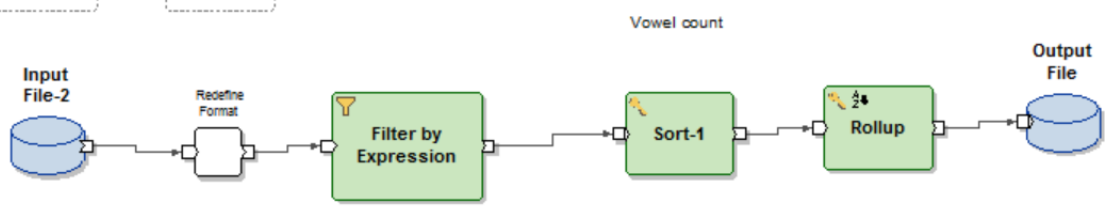
Key :id

```
out :: rollup(in) =
begin
  out.data :: string_join(accumulation(in.data),"");
  out.id :: in.id;
end;
```

Op-DMl

Record
String(“|”)id;
String(“\n”)data;
end

2. How to take a count of vowel present in a string ?



Redefine Format
record
string(1) data;
end

FBE
data member [vector "A","a","E","e","I","i","O","o","U","u"]

Sort
Key –Data

Rollup

Key –Data

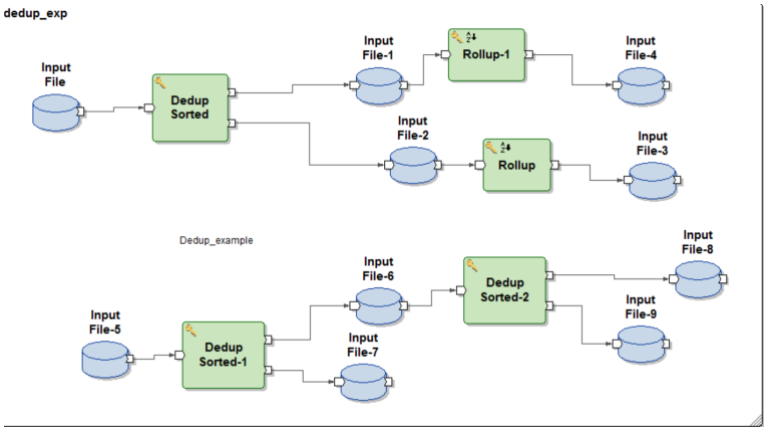
```
out :: rollup(in) =
begin
  out.data :: in.data;
  out.cc :: count(in.data);
end;
```

3. **Dedup example**

input :-
id
1
1
1
2
2
3

Output required
id
1
1
2

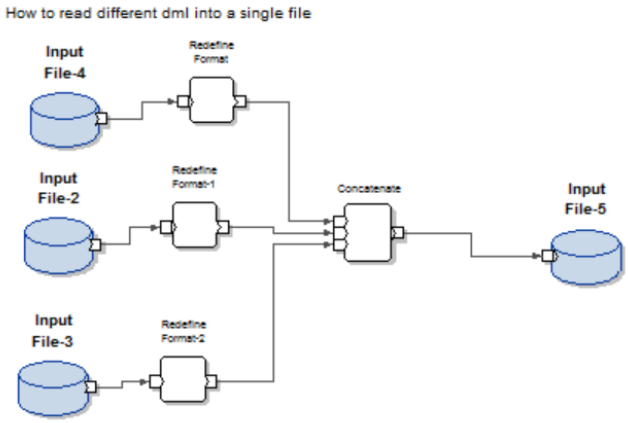
Id
3
Id
1
2



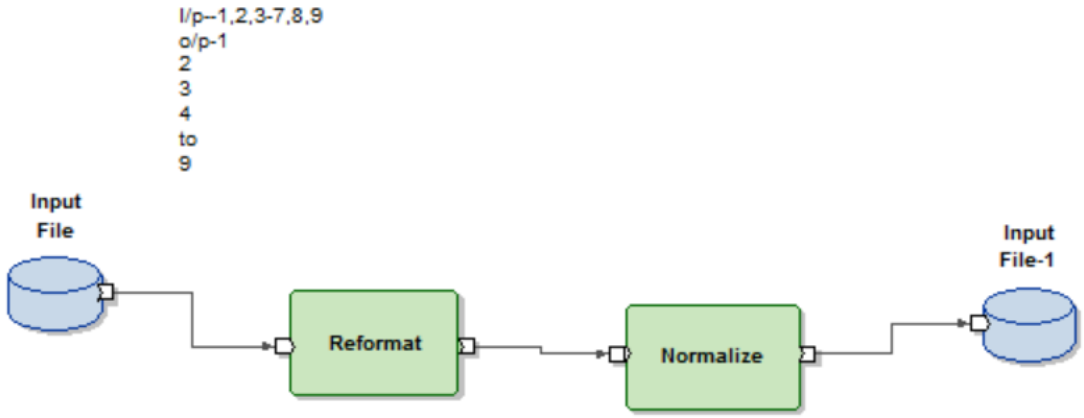
Note :- Use dedup keep fst and keep last with null key.

4.**How to read different dml file to a single file**

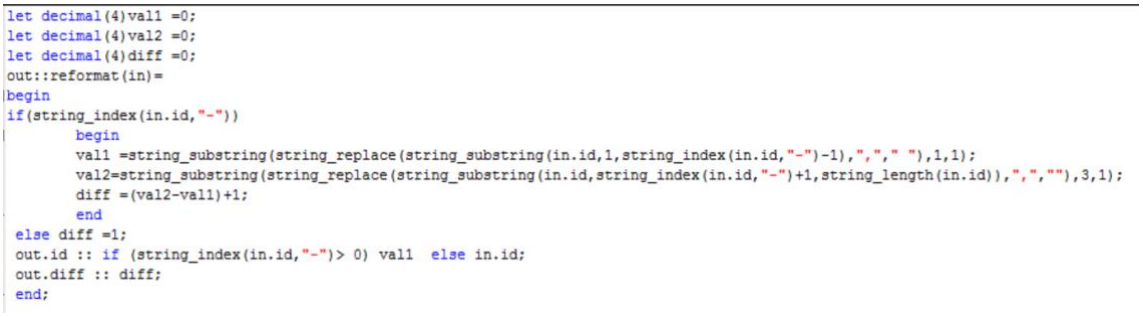
Ans- use redefine format or use read_multiple file



5. **Reformat and normalize example**



Reformat



```
let decimal(4)val1 =0;
let decimal(4)val2 =0;
let decimal(4)diff =0;
out::reformat(in)=
begin
if(string_index(in.id,"-"))
        begin
        val1 =string_substring(string_replace(string_substring(in.id,1,string_index(in.id,"-")-1),",","  "),1,1);
        val2=string_substring(string_replace(string_substring(in.id,string_index(in.id,"-")+1,string_length(in.id)),",",""),3,1);
        diff =(val2-val1)+1;
        end
 else diff =1;
 out.id :: if (string_index(in.id,"-")> 0) val1  else in.id;
 out.diff :: diff;
 end;
```

```
let decimal(4)val1 =0;
let decimal(4)val2 =0;
let decimal(4)diff =0;

out::reformat(in)=
begin
if(string_index(in.id,"-"))
        begin
        val1 =string_substring(string_replace(string_substring(in.id,1,string_index(in.id,"-
")-1),","," "),1,1);
        val2=string_substring(string_replace(string_substring(in.id,string_index(in.id,"-
")+1,string_length(in.id)),",",""),3,1);
        diff =(val2-val1)+1;
        end
 else diff =1;
 out.id :: if (string_index(in.id,"-")> 0) val1  else in.id;
 out.diff :: diff;
 end;
```

Normalize

```
out::length(in)=
begin
out:: (decimal("|"))in.diff;
end;

/*Do computation*/
out::normalize(in,index)=
begin
out.id::if(index ==0) (decimal("")) in.id else string_lrtrim((decimal("")) in.id+index);
end;
```

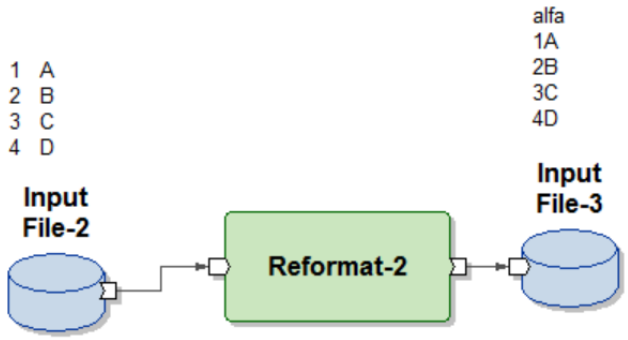
O/p DML

Record

String(“\n”)id;

End

6. Two different column into a single column



Reformat
Out ::reformat(in)=
begin
Out.alfa ::string_concat(in.id,in.alfa);
end

Input DML

record
decimal("|")id;
string("\n")alfa;
end

Output DML

record

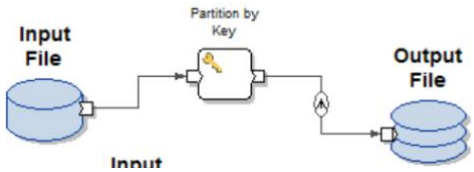
String("\n")alfa;

end

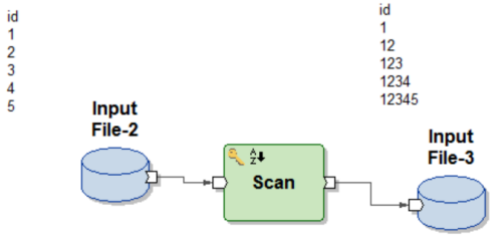
```
/*out::Reformat(in)=
begin
let string("")[big endian integer(4)] vec1 = allocate_with_defaults();
let string("")[big endian integer(4)] vec2 = allocate_with_defaults();
let string("")[big endian integer(4)] vec3 = allocate_with_defaults();
vec1=[vector in.id];
vec2=[vector in.alfa];
vec3=vector_concat(vec1,vec2);
out.alfa :: string_join(vec3,"");

end;
*/

out:: Reformat(in)=
begin
out.alfa::string_concat(in.id,in.alfa);
end
```

Note :- Also We can use vector to achive above scenario.

7. How to convert serial file into multi file ?



8 .scan example with null key using concatenation function



Scan

Out ::scan(in)=

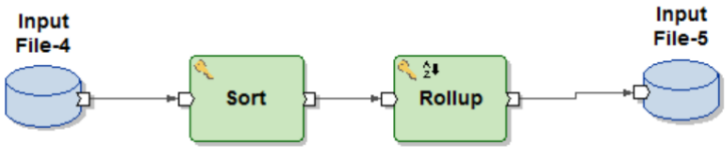
Out .id :: concatenation(in.id);

Key :: null key

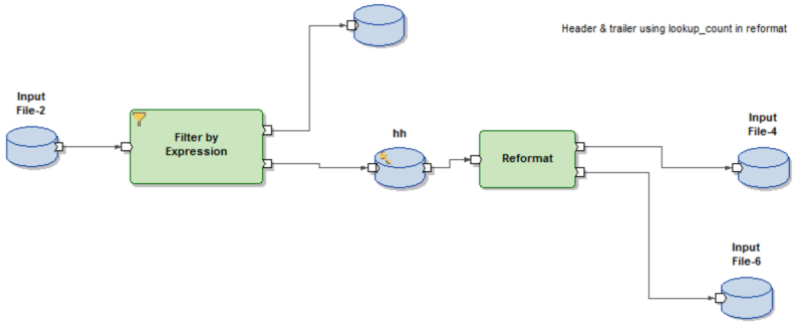
9. How to remove duplicate records with out using dedup sort?

Ans :- Rollup

Key :id



10. Header trailer scenario using reformat & lookup



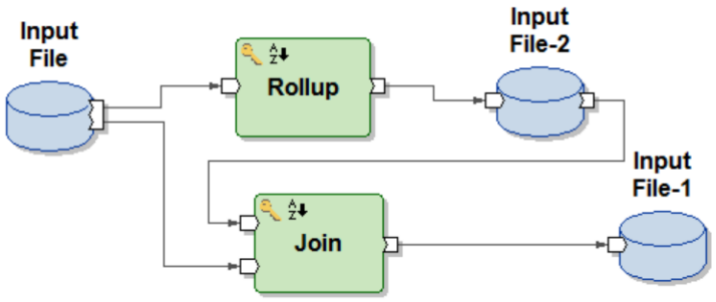
FBE

Next_in_sequence ==1;

Reformat

```
output_index_out :: output_index(in) =
begin
  output_index_out :: if ( next_in_sequence() == lookup_count("hh") ) 1 else 0;
end;
```

11. join and rollup example



1|a
2|b
3|c

O/p
1 abc
2 abc
3 abc

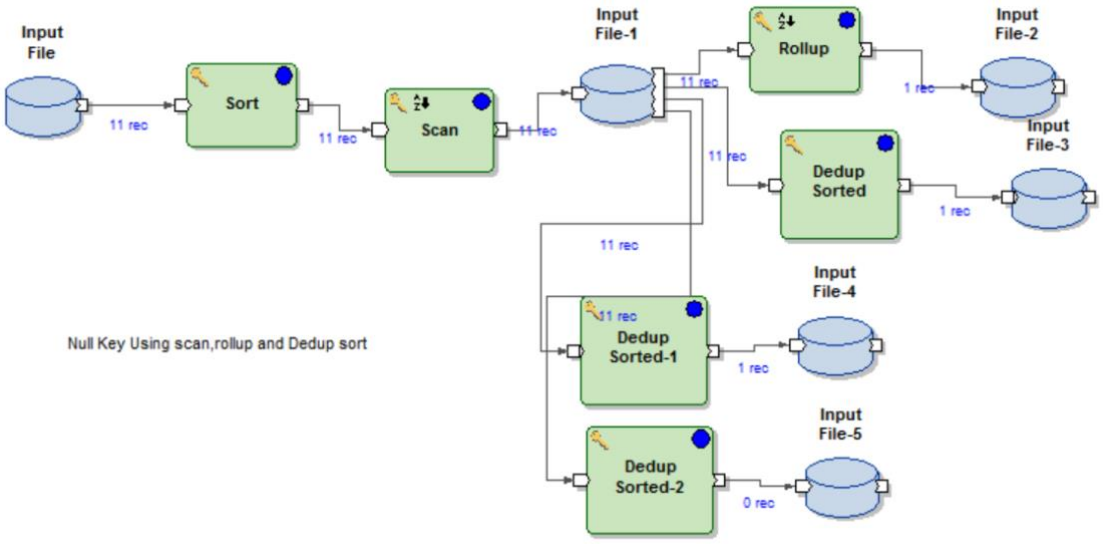
Rollup :

```
out :: rollup(in) =
begin
  out.id::string_join(accumulation(in.data),"");
end;
```

join

null key (cartisian join)

12. scan ,rollup and dedup with null key and unique key



Scan with null key ---11 rec

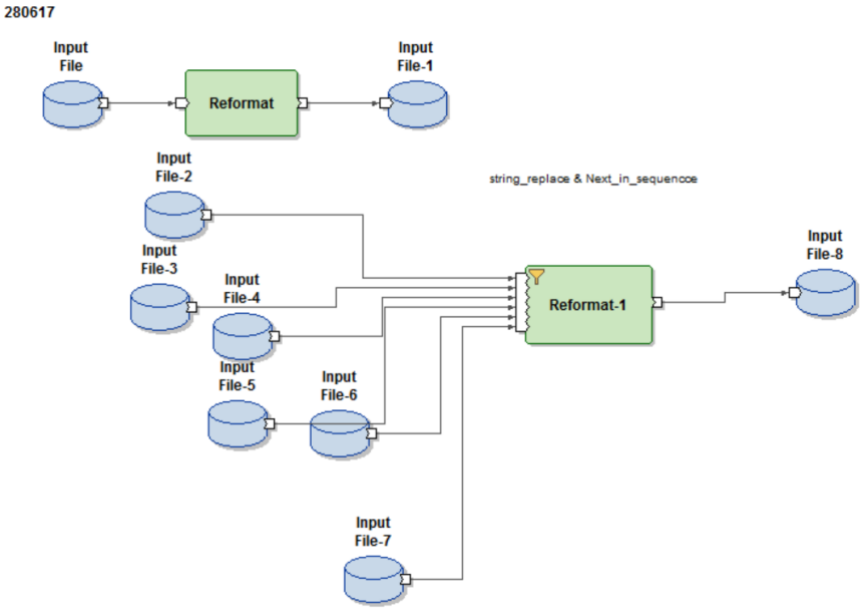
Rollup with null key –1 record(depends if the data is sorted then last if data is not sorted then fst record)

Dedup with null key—(keep fst)—1 record

Dedup with null key—(keep lst)—1 record

Dedup with null key—(keep unique)—0 record (key didn't get the unique record bcoz it treats every record is one group

13. string_replace example



1A- id

1|2|3 replace to 1||2||3

Reformat

begin

Out.id :: String_replace (in.id,"|","||"");

End

Or

Reformat

begin

Out.id :: string_join(string_split_no_empty(in.id,"|"),"||");

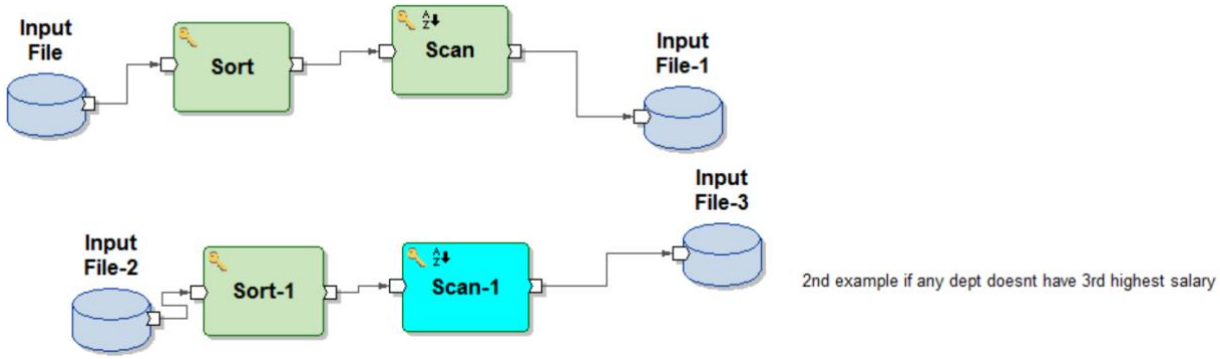
End

1B

In the 2nd example input file1 to input7 contain one one letter like (1----7) if you are gathering all the input file using reformat and pass the select condition next_in_sequence() <5 then what will be the out put.

Ans --4

14.How to find dept wise 2nd and 3 rd highest salary .



Sort : Dept-Asc

Salary-Desc

Scan

Key –Dept

```
let decimal ("") rank =0;
type temporary_type=
record
decimal ("|") count;
end;

 temp::initialize(in)=
 begin
 rank =0;
 temp.count::0;

 end;

 temp ::scan(temp,in)=
 begin
 rank =if (temp.count ==in.sal) rank else rank +1;
 temp.count::temp.count+1;
 end;

 out :: finalize(temp,in)=
 begin
 out.*::in.*;
 end;

 out ::output_select(out)=
begin
out :: rank ==2 ;
end;
```

Let decimal (“ “) rank =0;

Type temporary type =

Record

Decimal(“|”) count ;

End;

Temp :: initialize(in)=

Begin

Temp. rank=0;

Temp.count :: 0;

End;

Temp::scan(temp,in)=

Begin

Rank =(if(temp.count=in.sal)rank else rank +1;

Temp.count ::temp.count+1;

End;

Temp :: finalize(temp,in)=

Begin

Out.* ::in.* ;

End;

Out ::output_select(out)=

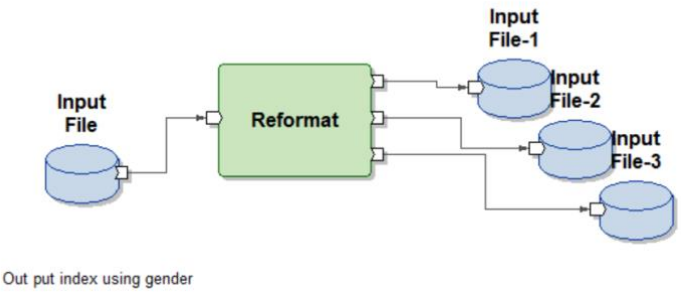
Begin

Out ::rank ==2 or rank ==3;

End;

Note :- If any dept doesn't have 3 rd highest or 2nd highest then also above code will work , but in output that dept data will not come .

15. Output index example



Out put index using gender

Input data

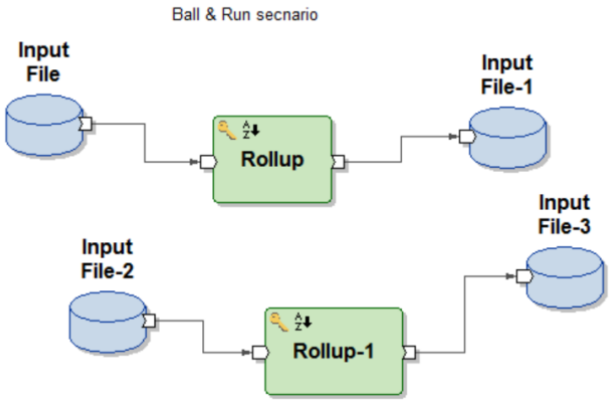
	name	g...	a...	salary
1	jyoti	M	31	5000
2	Vikram	M	26	3000
3	Chitra	F	25	3000
4	Nayan	F	25	3000
5	girish	M	27	2000

Reformat

Count =3

```
/*Function returning index of output port*/
output_index_out::output_index(in)=
begin
output_index_out::if(in.gender =="M")0 else if (in.gender =="F")1 ;
end;
```

16. Ball & run Scenario



16.1

Input data

	ball	run
1	1	1
2	2	1
3	3	1
4	4	1
5	5	1
6	6	1
7	1	0
8	2	1
9	3	1
10	4	1
11	5	1
12	6	1
13	1	1
14	2	1
15	3	1
16	4	1
17	5	1
18	6	0

o/p

ball	run
1	6
2	5
3	5

Rollup

Use key change function

```
type temporary_type=
record
decimal("\n")run_per_over;
end;
out :: key_change(in1,in2)=
begin
out :: if ((decimal("|"))in2.ball %6 ==1)1 else 0;
end;

temp :: initialize(in) =
begin
temp.run_per_over ::0;
end;
temp :: rollup(temp,in)=
begin
temp.run_per_over :: temp.run_per_over +(decimal("|"))in.run;
end;
out ::finalize (temp,in)=
begin
out.ball :: (decimal("|"))next_in_sequence();
out.run :: temp.run_per_over;
end;
```

16.2

Input data

	b...	ru...
1	1	1
2	2	1
3	3	1
4	4	1
5	5	1
6	6	1
7	7	0
8	8	1
9	9	1
10	10	1
11	11	1
12	12	1
13	13	1
14	14	6
15	15	4
16	16	1
17	17	1
18	18	0

Op data

over run

1 6

2 5

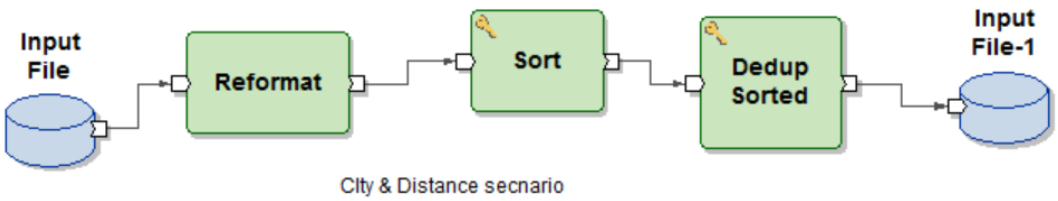
3 13

Rollup

Use key change function

```
type temporary_type=
record
decimal("\n")run_per_over;
end;
out::key_change(in1,in2)=
begin
out::if((decimal("|"))in2.ball%6==1)1 else 0;
end;
temp::initialize(in)=
begin
temp.run_per_over ::0;
end;
temp ::rollup (temp,in)=
begin
temp.run_per_over ::temp.run_per_over+(decimal("|"))in.run;
end;
out :: finalize(temp, in) =
begin
out.over ::(decimal("|"))next_in_sequence();
out.run ::temp.run_per_over;
end;
```

17. City and distance scenario



City & Distance secnario

Input data

	from	to	distance
1	pune	mumbai	200
2	pune	banglore	800
3	banglore	kolkata	2000
4	mumbai	pune	200
5	banglore	pune	800
6	pune	pakistan	200
7	nagpur	chakan	800

Output data

	from	to	distance
1	kolkata	banglore	2000
2	pune	banglore	800
3	nagpur	chakan	800
4	pune	mumbai	200
5	pune	pakistan	200
	[EOF]		

Reformat

```
1  out :: reformat(in) =
2  begin
3  let string("")[big endian integer(4)]vec1= allocate_with_defaults();
4  let string("")[big endian integer(4)]vec2= allocate_with_defaults();
5  let string("")[big endian integer(4)]vec3= allocate_with_defaults();
6  vec1=[ vector in.from ];
7  vec2=[vector in.to ];
8  //vec3=vector_sort_dedup_first(vector_sort(vector_append(vec1,string_join(vec2,""))));
9  vec3=vector_sort(vector_append(vec1,string_join(vec2,"")));
10 //out.to::string_join(vec3,"");
11 //out.from::string_join(vec3,"");
12 out.to::vec3[0];
13 out.from::vec3[1];
14 out.distance :: in.distance;
15 end;
```

```
out :: reformat(in) =
begin
let string("")[big endian integer(4)]vec1= allocate_with_defaults();
let string("")[big endian integer(4)]vec2= allocate_with_defaults();
let string("")[big endian integer(4)]vec3= allocate_with_defaults();
vec1=[ vector in.from ];
vec2=[vector in.to ];
//vec3=vector_sort_dedup_first(vector_sort(vector_append(vec1,string_join(vec2,""))));
vec3=vector_sort(vector_append(vec1,string_join(vec2,"")));
//out.to::string_join(vec3,"");
//out.from::string_join(vec3,"");
out.to::vec3[0];
out.from::vec3[1];
out.distance :: in.distance;
end;
```

Sort

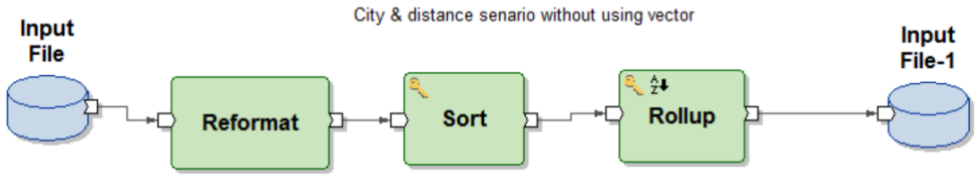
Key :- To ,From

Dedup

Key :- To ,From

Keep fst

18. City distance example without using vector



Reformat

```
out :: reformat(in) =
begin
  out.from :: in.from;
   out.to :: in.to;
  out.distance :: in.distance;
  out.city_chk ::
string_filter_out("abcdefghijklmnopqrstuvwxyz",string_concat(in.to,in.from));
end;
```

sort

Key : To,From

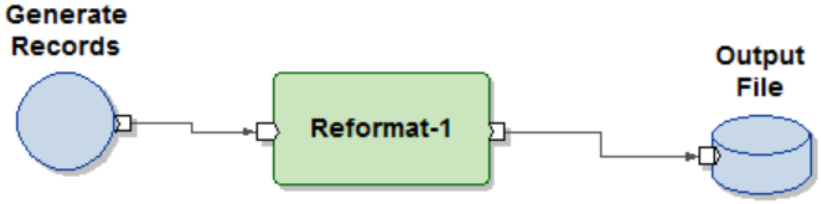
Rollup

Key : city_chk

Transform ->out.* :: in.*;

19.

How to remove duplicate records with out using dedup and rollup



Reformat

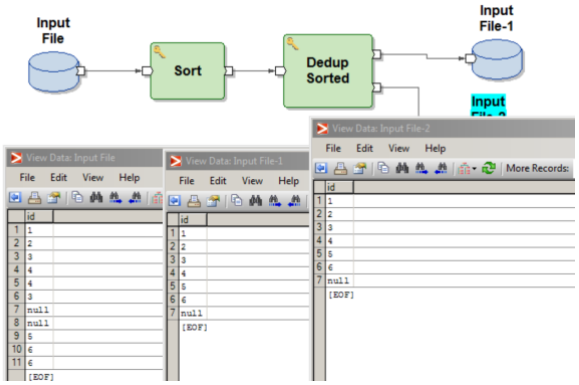
```
/*Reformat operation*/
out::reformat(in)=
begin
  out.id :: string_join(vector_sort_dedup_first(string_split_no_empty(read_file
                        ("/data/abinitio/data/NewCo/developer_sandboxes/jmohanty/practice/ser/dedup_sort.dat"),"\n")),"\n");
end;
```

/*Reformat operation*/
out::reformat(in)=
begin
  out.id :: string_join(vector_sort_dedup_first(string_split_no_empty(read_file

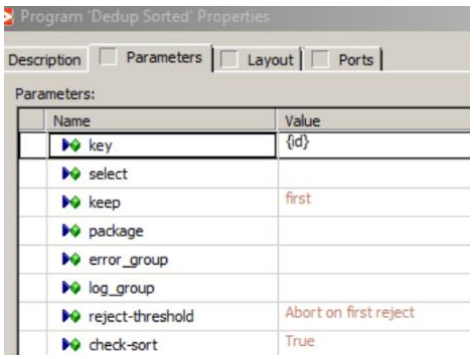
("/data/abinitio/data/NewCo/developer_sandboxes/jmohanty/practice/ser/dedup_sort.dat
"),"\n")),"\n");
end;

20.

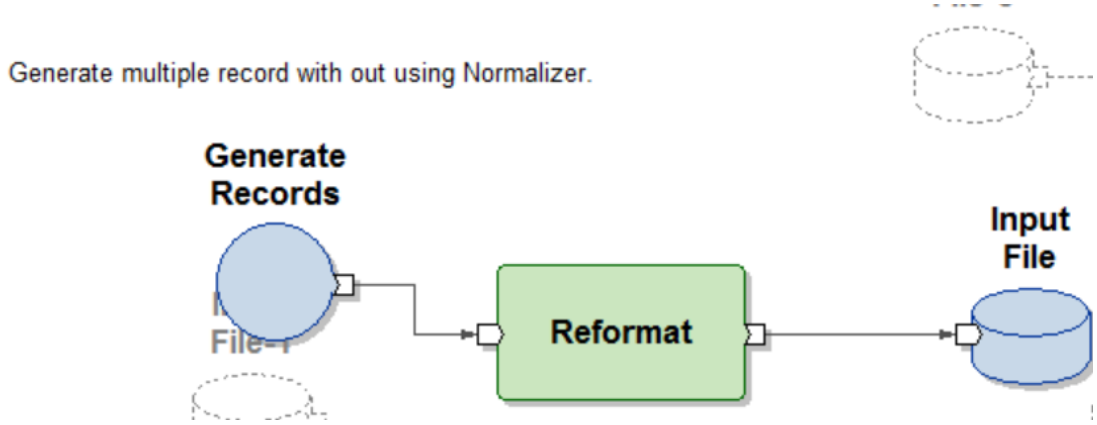
What will happened if my input data having null record and I want to perform dedup sort with unique key ?



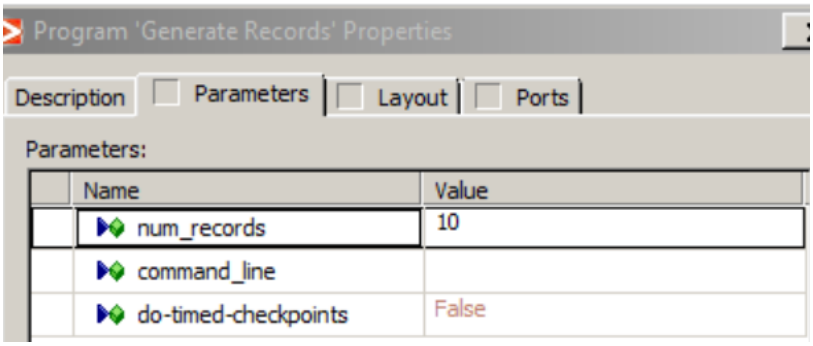
Ans :- pass the unique record in to the output port.



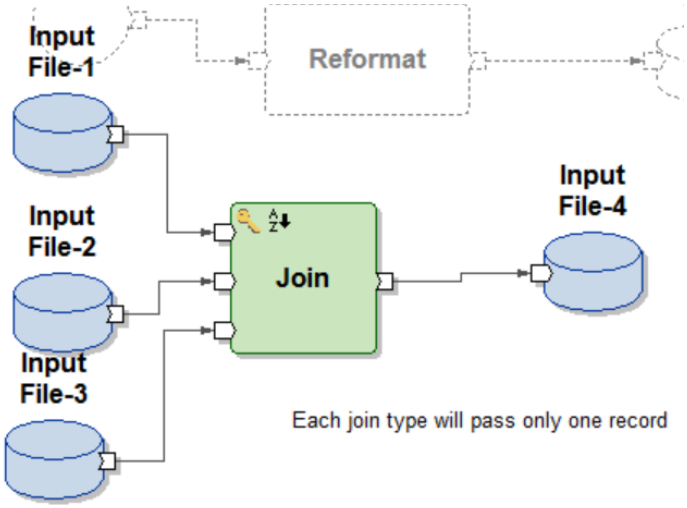
21. **How to generate multiple data without using normalizer ?**



Ans –using **generate record** component.



22 .



Supppose you have a 3 input file

Like 1|1,

1|2

And 1|1

So what will be my output in each type of join

Ans – one record will pass In each type of join either its 1|1 or 1|2 depends upon selection column

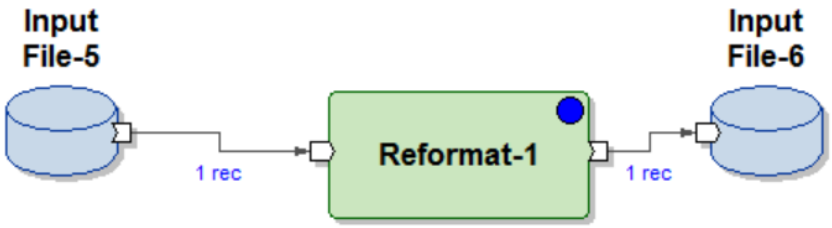
23.

Suppose you have a string like

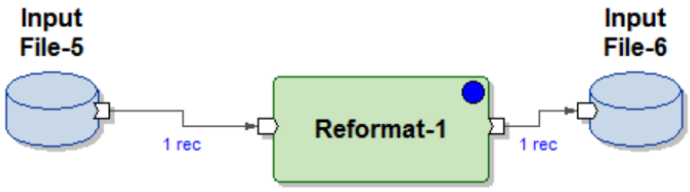
i.e jyotiprasadmohanty

so I want to pass fst two character in my output.

Ans :- out.data :: string_substring(in.data,1,2);

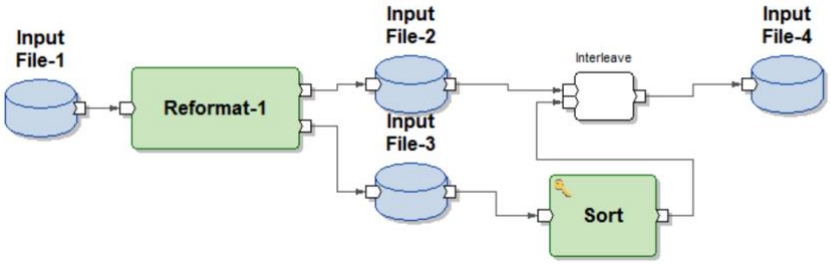


24. Similar to the above question how to get the last two character.



out.last :: string_substring(in.last,(string_length(in.last)-2),(string_length(in.last)));

25. Interleave with String_is_numeric function example



Input file

A

10

B

30

C

20

Output file

A

10

B

20

C

30

Reformat

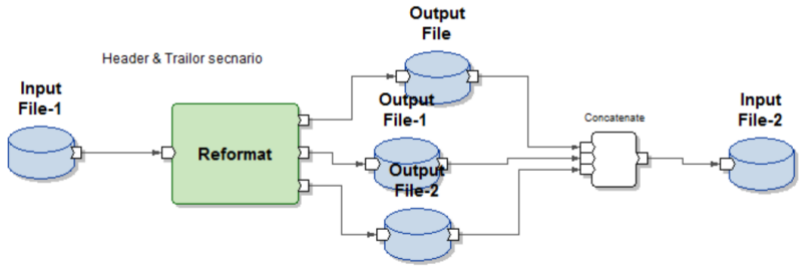
output_index_out :: output_index(in) =

begin

output_index_out :: if(string_is_numeric(in.id))1 else 0;

end;

26.Header trailer scenario with indicator.



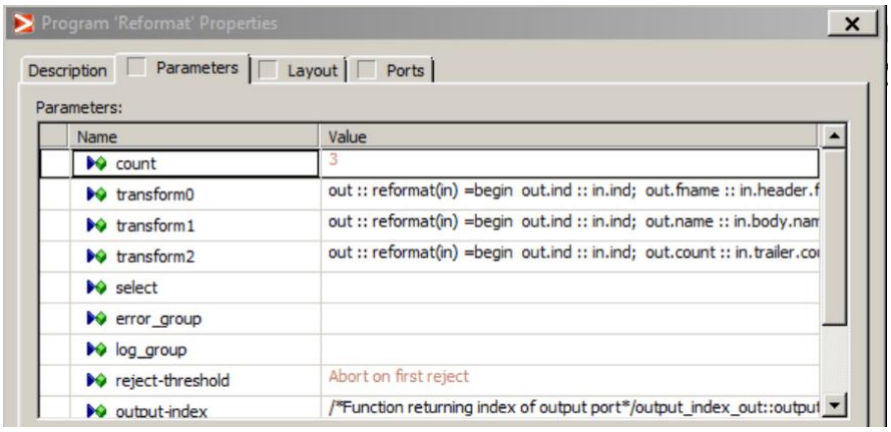
Input DML

If your record having some indicator.

```
record
string ("|") ind ;

        if (ind =="H")
                record
                        string("\n") fname;
                end header;

        if(ind =="B")
                record
                string ("|")name;
```

```
            string ("|")lame;
            string ("\n")city;
        end body;
        if (ind =="T")
        record

        string("\n") count;
        end trailer;

end;
```

Reformat

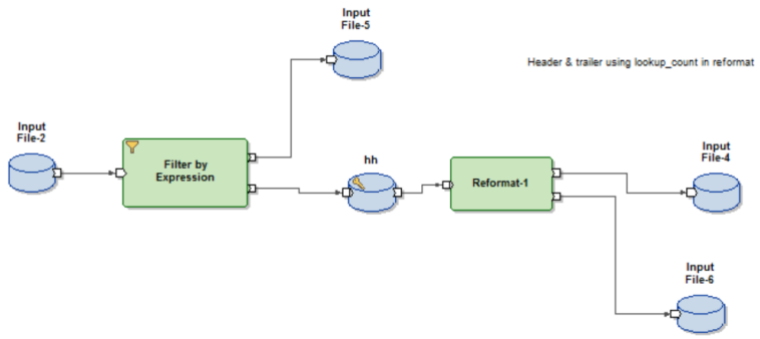



```
/*Function returning index of output port*/
output_index_out::output_index(in)=

begin
  output_index_out :: if(in.ind =="H") 0  else if (in.ind =="B") 1 else if (in.ind =="T")2;
end;
```

27.

Header trailor scenario solve using lookup count.

Note : -If your input record doesn't having any indicator



FBE

Next_in_sequence() =1;

Reformat

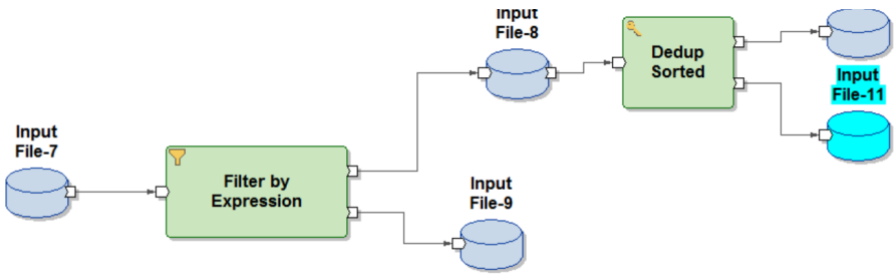
```
output_index_out :: output_index(in) =
begin
  //output_index_out :: if ( next_in_sequence() == lookup_count("hh") ) 1 else 0;
  output_index_out :: if(next_in_sequence()==lookup_count("hh"))1 else 0;
end;
```

28. Header footer using FBE and dedup

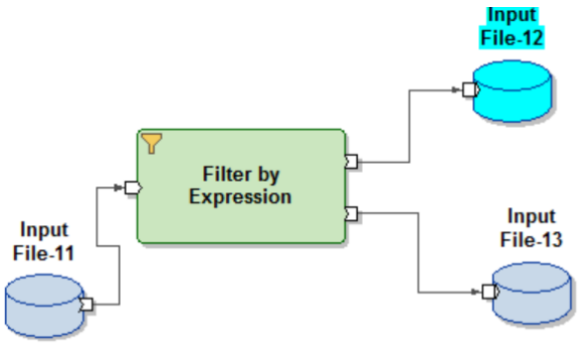
FBE- next_in_sequence() =1;

Dedup :- keep last

Else you can use dedup sort 2 times to achive this scenario.



29.my input file contain 1 to 40 , I didn't want to pass 11 to 20 record in my o/p how would you do that



FBE

if(next_in_sequence()>=10 && invocation_number()<=20)0 else 1;

30.

I have 2input file

F1

1

2

3

F2

A

B

C

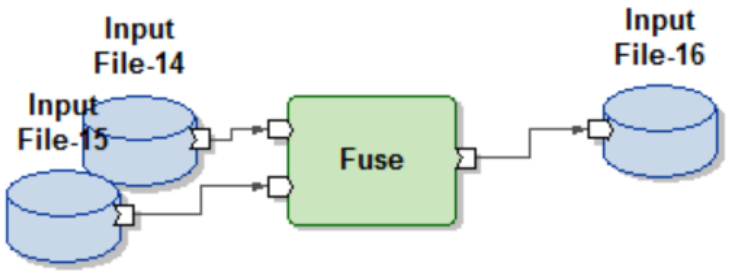
Output

1A

2B

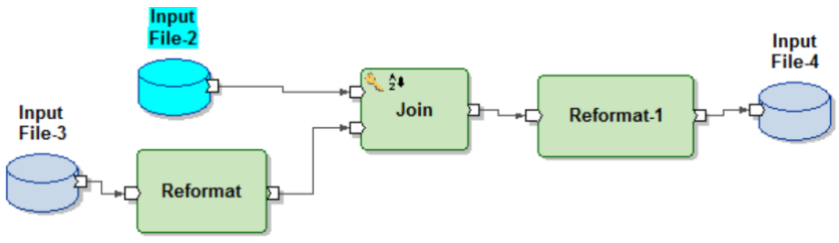
3C

Ans :- you can achive this scenario by fuse else you can use join and reformat.




```
out :: fuse(in0, in1) =
begin
  out.id :: in0.id;
  out.letter :: in1.letter;
end;
```

31.



Reformat

Out .id :: next_in_sequence();

Join

Inner join

Output ouf join

Out.id ::in.id;

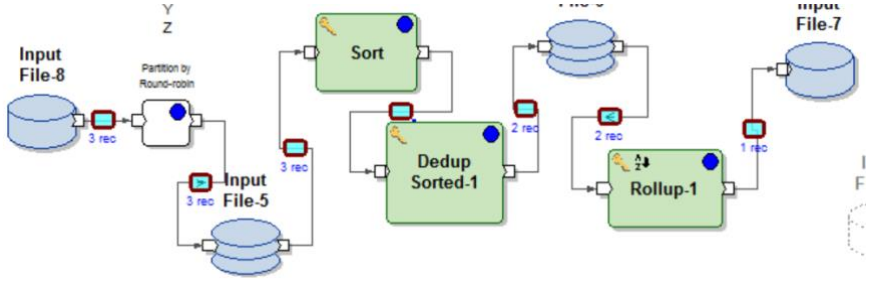
Out.data::in.data

1	A
2	B
3	C

Reformat

Out.id ::string_concat (in.id,in,data);

32.



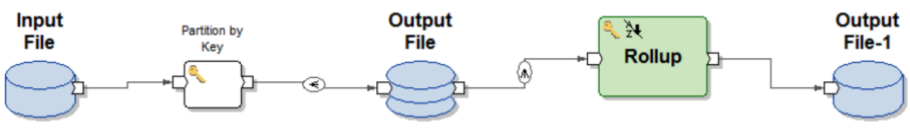
Input

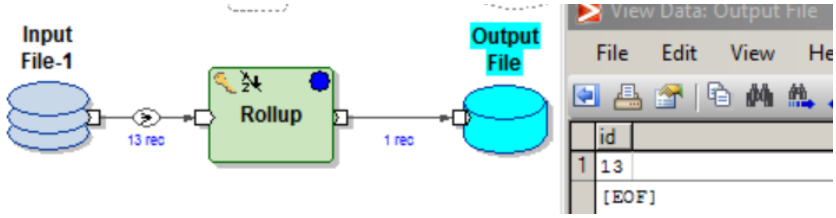
	id
1	12345
2	1234
3	123456

O/p

12345

33. How to take a count of a multi file using abinito graph?

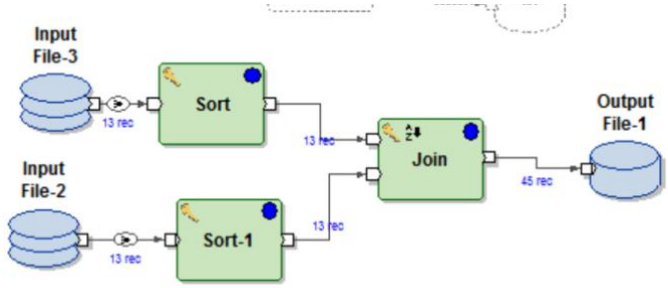




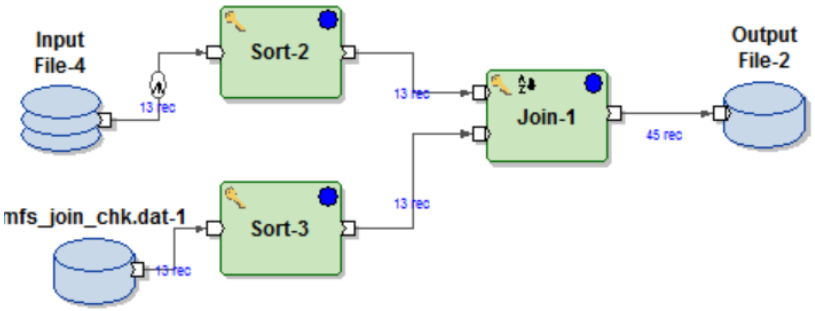
Rollup

Ans := use count function with null key.

34.Hw to join 4way and 8way mfs in abinito.

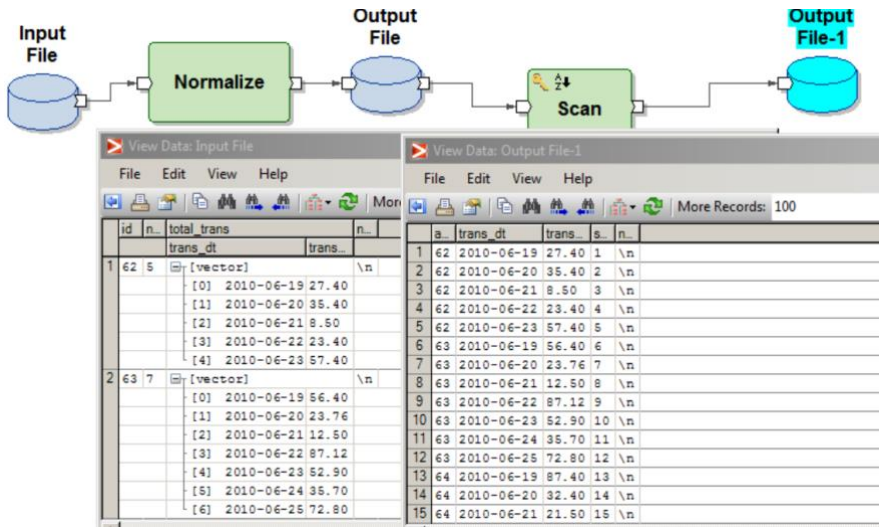


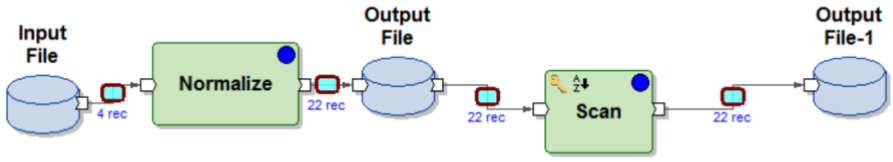
35. How to join a serial file with multi file



36. How to convert vector data to normal data

Ans –used normalize and then scan





Input DML

```
record
decimal(",")id;
decimal(",")no_of_trans;
        record
        date("YYYY-MM-DD")(",") trans_dt;
        decimal(",".2) trans_amt;
        end [no_of_trans] total_trans;
         string(1) newline = "\n";
end
```

```
record
decimal(",")id;
decimal(",")no_of_trans;
        record
        date("YYYY-MM-DD")(",") trans_dt;
        decimal(",".2) trans_amt;
        end [no_of_trans] total_trans;
         string(1) newline = "\n";
end
```

o/p dml

```
record
   decimal(",") acct_id;
   date("YYYY-MM-DD")(",") trans_dt;
   decimal(",".2) trans_amt;
   decimal (",") seq_no;
   string(1) newline = "\n";
end
```

Normalize.

```
/* This type is optional.*/
// type temporary_type = NULL_TYPE;

out::length(in)=
begin
out ::length_of(in.total_trans);
end;

/*Do computation*/
out::normalize(in,index)=
begin
out.acct_id ::in.id;
out.newline :: in.newline;
out.trans_amt ::in.total_trans [index].trans_amt;
out.trans_dt ::in.total_trans [index].trans_dt;
end;
```

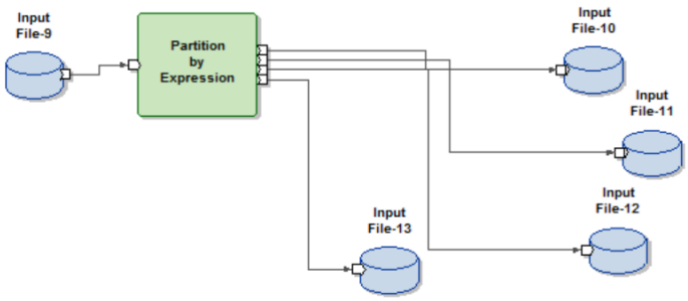
Scan

Key : null

```
1  type temporary_type=
2  record
3  decimal(2)seq_no;
4  end;
5  temp :: initialize(in)=
6  begin
7  temp.seq_no ::0;
8  end;
9  temp::scan(temp,in)=
10 begin
11 temp.seq_no :: temp.seq_no +1;
12 end;
13
14 out :: finalize(temp,in)=
15 begin
16 out.acct_id :: in.acct_id;
17 out.newline :: in.newline;
18 out.trans_amt ::in.trans_amt;
19 out.trans_dt ::in.trans_dt;
20 out.seq_no ::  temp.seq_no;
21 end;
```

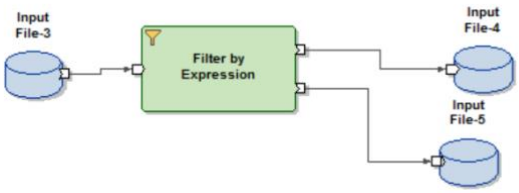
37.

Partition by expression



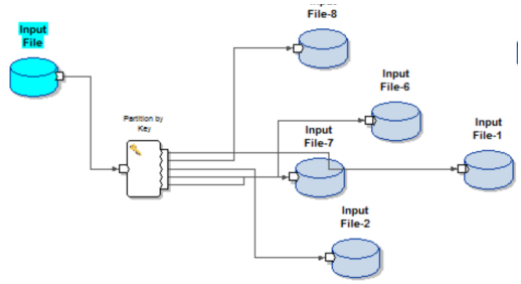

```
if ( id == 100 ) 0 else if ( id == 200 ) 1 else if ( id == 300 ) 2 else  3
```

38. How to use package in FBE.

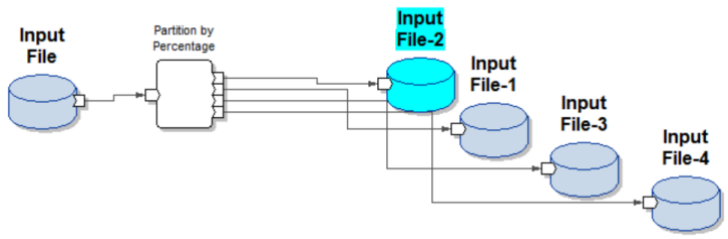



```
/* This function is optional. */
/*Use this instead of the select_expr parameter when
use_package is true.*/
select_out::select(in)=
begin
select_out :: if(in.id ==100)1 else 0;
  //select_out :: in.id;
end;
```

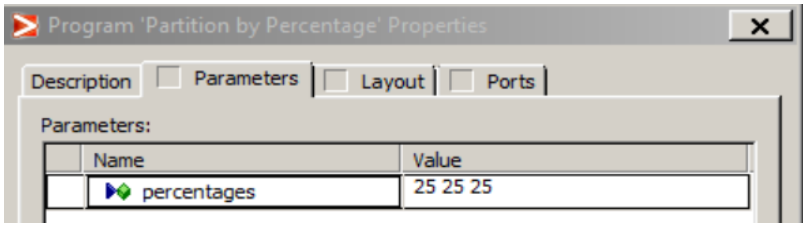
39 .Partition by key example.



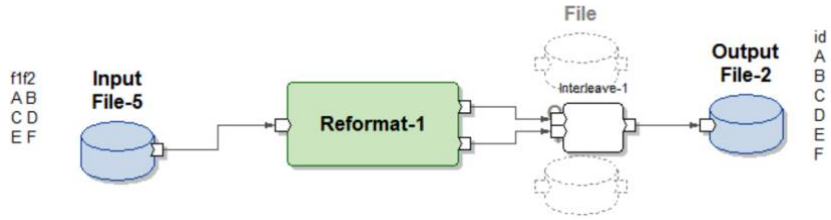
40.Partition by percentage.



PBP:-



41. Suppose I have 2 columm like f1 & f2 and I want one column in my output with all the data that I have in my input.



Reformat

Count =2

Transform1 :- out.id ::in.f1;

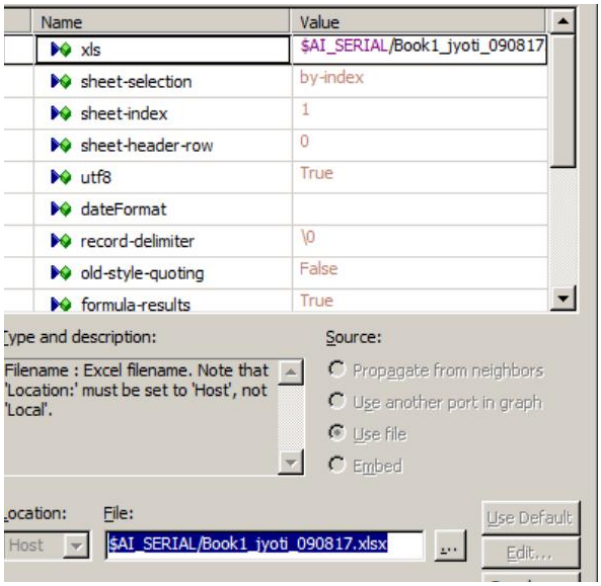
Transform2 :- out.id ::in.f2;

Then use **interleave**

42. Read excel scenario

Read_excel→FBE-→redefine_format_reformat--→opfile

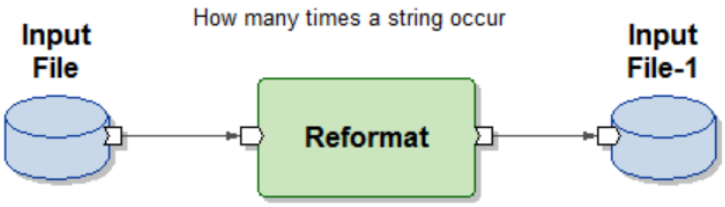
Read excel



FBE

```
next_in_sequence()>1
```

43. find out how many time pawan will repeated in the string

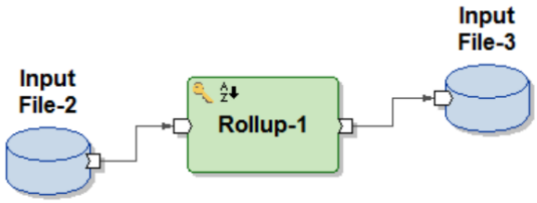


Input :- jyotianupbrijeshanupjyotipawanjyotipawan

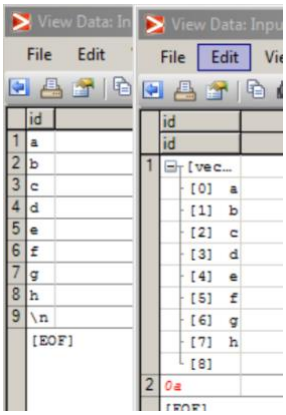
Reformat

```
out :: reformat(in) =
begin
  out.data :: (length_of(in.data)-length_of(re_replace(in.data,"PAWAN","")))/5;

end;
```

44. How to convert normal data into vector data.



Ans – Accumulation.




```
out :: rollup(in) =
begin
  out.id :: accumulation(in.id);
  //out.id ::
string_split_no_empty(accumulation(in.id),"'");
end;
```

45.

Input data

	a...	trans_dt	trans...	n...
1	62	2010-06-19	27.40	\n
2	62	2010-06-20	35.40	\n
3	62	2010-06-21	8.50	\n
4	62	2010-06-22	23.40	\n
5	62	2010-06-23	57.40	\n
6	63	2010-06-19	56.40	\n
7	63	2010-06-20	23.76	\n
8	63	2010-06-21	12.50	\n
9	63	2010-06-22	87.12	\n
10	63	2010-06-23	52.90	\n
11	63	2010-06-24	35.70	\n
12	63	2010-06-25	72.80	\n
13	64	2010-06-19	87.40	\n
14	64	2010-06-20	32.40	\n
15	64	2010-06-21	21.50	\n

Input dml

```
record
  decimal(",") acct_id;
  date("YYYY-MM-DD")(",") trans_dt;
  decimal(",".2) trans_amt;
  string(1) newline = "\n";
end

sort

Key :acct_id ;

Rollup

Key :t_id;

Transform

out :: rollup(in) =
begin
  out.acct_id :: in.acct_id;
  out.num_of_trans :: count(in.acct_id);
  out.newline :: in.newline;
  out.detail_trans:: accumulation([record
                                        trans_dt
in.trans_dt
                                        trans_amt
in.trans_amt
                                        ] );
end;
```

Record format:

```
record
  decimal(",") acct_id;
  decimal(",") num_of_trans;
  record
  date("YYYY-MM-DD")(",") trans_dt;
  decimal(",".2) trans_amt;
  end
[num_of_trans] detail_trans;
  string(1) newline = "\n";
end
```

Out put dml

Record

Decimal(“,”)acct_id;

Decimal(“,”)num_of_trans;

Record

Decimal(“YYYY-MM-DD”)(“,”)trans_dt;

Decimal(“,”.2)trans_amt;

End [num_of_trans] detail_trans;

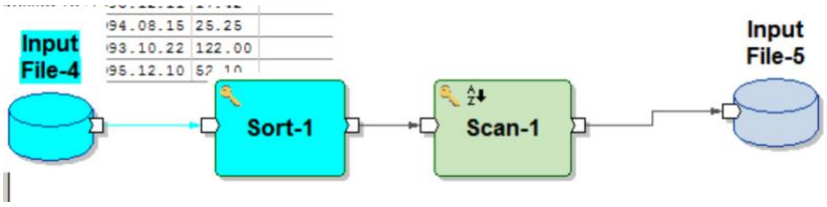
String(1) newline =”\n”;

End;

a...	n...	detail_trans		n...
		trans_dt	trans...	
62	5	[vector]		\n
		[0]	2010-06-19 27.40	
		[1]	2010-06-20 35.40	
		[2]	2010-06-21 8.50	
		[3]	2010-06-22 23.40	
		[4]	2010-06-23 57.40	
63	7	[vector]		\n
64	4	[vector]		\n
		[0]	2010-06-20 32.40	
		[1]	2010-06-21 21.50	
		[2]	2010-06-22 73.40	
		[3]	2010-06-19 87.40	
65	6	[vector]		\n

46.

Scan Example



View Data: Input File-4

File Edit View Help

	cust_id	tra_date	price
1	C002142	1994.03.23	52.20
2	C002142	1994.06.22	22.25
3	C003213	1993.02.12	47.95
4	C003213	1994.11.05	221.24
5	C003213	1995.12.11	17.42
6	C004221	1994.08.15	25.25
7	C008231	1993.10.22	122.00
8	C008231	1995.12.10	52.10
	[EOF]		

View Data: Input File-5

File Edit View Help More Rec

	cust_id	tra_date	full_pri...	category
1	C002142	1994.03.23	52.2	regular
2	C002142	1994.06.22	74.45	regular
3	C003213	1993.02.12	47.95	regular
4	C003213	1994.11.05	269.19	premiuim
5	C003213	1995.12.11	286.61	premiuim
6	C004221	1994.08.15	25.25	regular
7	C008231	1993.10.22	122	premiuim
8	C008231	1995.12.10	174.1	premiuim
	[EOF]			

Scan

Key : cust_id;

out :: scan(in) =

begin

out.cust_id :: in.cust_id;

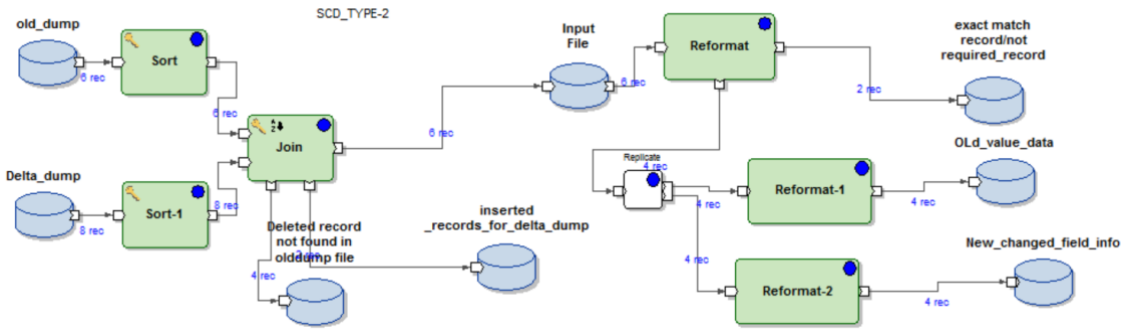
out.tra_date :: in.tra_date;

out.full_price:: sum(in.price);

out.category :: if (sum(in.price)>100)"premiuim" else"regular";

end;

46. SCD_type-2



scd-2.txt

47.

I have a input file with data 1 to 40,when I was run the graph in the fst time then 1to 10 record will be loaded and in the 2nd run 11 to 20 and so on

How could you achive this

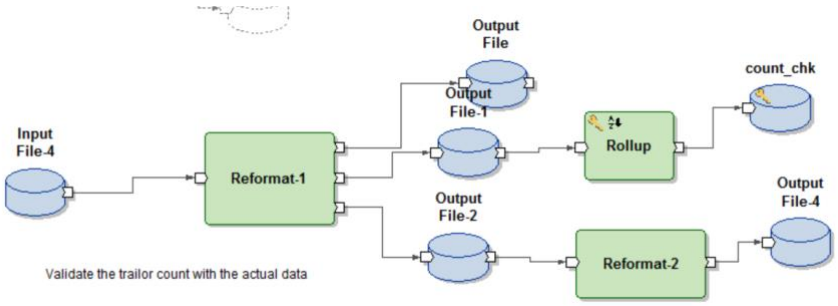
Sequential load the data as per condition

FBE

!lookup_match("lookup",in.data) and next_in_sequence()<=10

Lookup is in append mode.

48. Validate trailer count with actual data

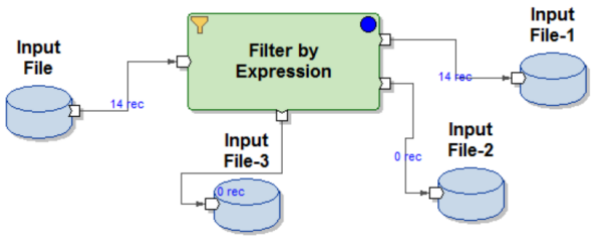



```
out :: reformat(in) =
begin
out.validation :: if
(lookup_match("count_chk",in.trailer.count))"match" else
"unmatched";
end;
```

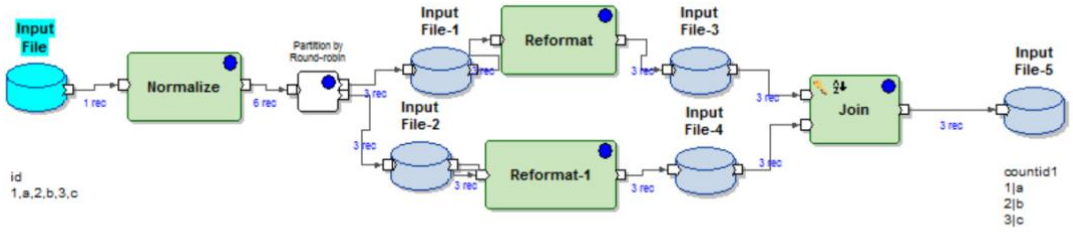
49. if you are passing select expression 1 or 0 or -1 in FBE component then what will be the requird out put.

Ans –in case of "0"---all the record pass to the de select port as condition is false.

In case of 1 or -1 or -2 all the record pass to the out put port as bcoz -1 or -2 is not equal to 0. It's also a Boolean value and treated as a true or 1,



50.




```
Normalize

out::length(in)=

begin

out::length_of(string_split(in.id,","));

end;
```

```
/*Do computation*/
out::normalize(in,index)=
begin
out.id1::string_split(in.id,",")[index];
end;
input_file1
id1
1
2
3
input-2
a
b
c
```

51.

Input file

A|100|NULL

A|NULL|200

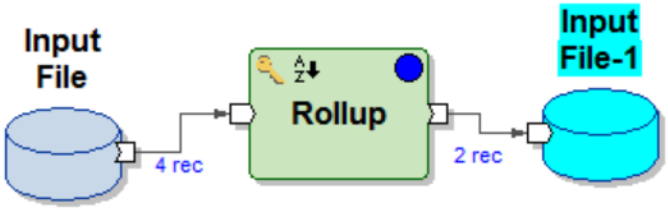
B|NULL|300

B|400|NULL

Out put file

A|100|200

B|400|300



Rollup

Key :- id

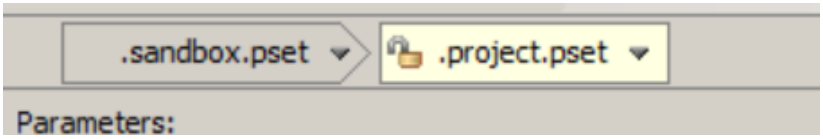
Transform

Out.id ::in.id;

Out.col1 :: string_filter_out(concatenation(in.col1),"NULL");

Out.col2 :: string_filter_out(concatenation(in.col2),"NULL");

Note : - once we change the value in sandbox.pset the data can be automatically reflect or override in project .pset, bcoz project .pset has lock and unlock option , if the project .pset is in the locked postion then we can't override the parameter value in preoject.pset



Note :- What happened if **maxcore** value will be 0?

Graph will execute bcoz maxcore value " expected integer between 0 and 9223372036854775807"

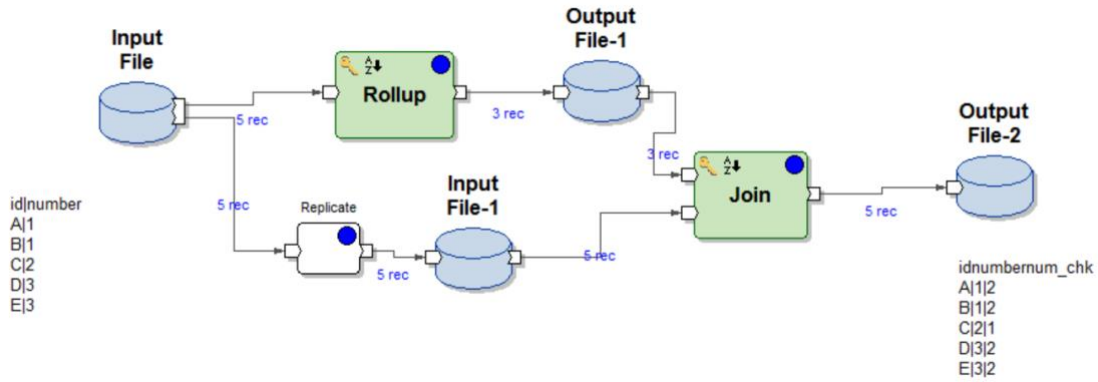
If we pass -1 as a maxcore the graph getting failed.

Implicit gather

Note : - If you are doing implicit gather inreformat and in reformat if you are using next_in_sequence function then how it behaves ?

Ans – the function behave by there nature , means it starts from 1 to till the end of record in single flow.

52.



Steps- Replicate the input data

Rollup

Key :- 2nd column

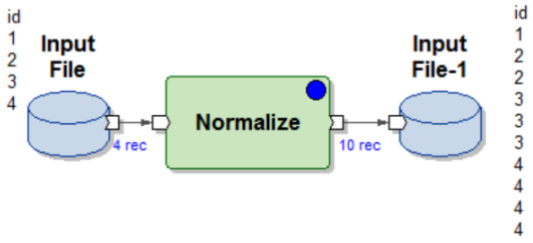
Transform : count(2nd column)

Join

Type : inner join

```
out :: join(in0, in1) =
begin
  out.*:: in1.*;
  out.num_chk :: in0.num_chk;
end;
```

53.



Normalize

Use length function

```
out::length(in)=
begin
out ::(decimal("|"))in.id;
end;

/*Do computation*/
out::normalize(in,index)=
begin
out.id ::in.id;
end;
```

Note : I have 2 input file in1(contain 10 record and in2 contain 20 record) in join if we are using inner join and probably we get 30 records? So at what scenario we can get 30 records using inner join.

Ans – if input file having duplicate record then every matching record of in0 will join with in1,

How to Improve Performance of graphs in Ab initio

- Use MFS, use Round robin partition or load balance if you are not joining or rollup
- Filter the data in the beginning of the graph.
- Take out unnecessary components like filter by expression instead use select expression in join, reformat etc.
- Use lookups instead of joins if you are joining small tale to large table.

- Take out old components use new components like join instead of math merge .
- Use gather instead of concat.
- Use Phasing if you have too many components.
- Tune the max core for optimal performance.
- Avoid sorting data by using in memory for smaller datasets join.
- Use Ab Initio layout instead of database default to achieve parallel loads.

54.**How to convert "A" to "a":**

m_eval 'char_string(string_char("A",1)+32)'

o/p: "a"

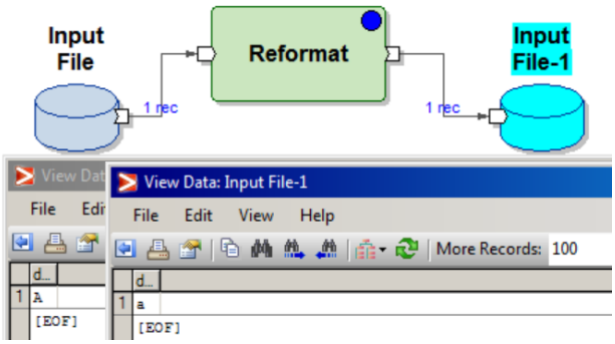
I/p→reformat →o/p

Reformat

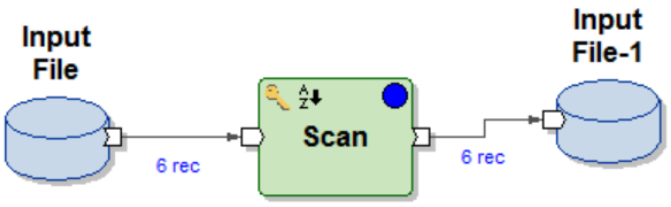
Out.id :: char_string(string_char("A",1)+32);

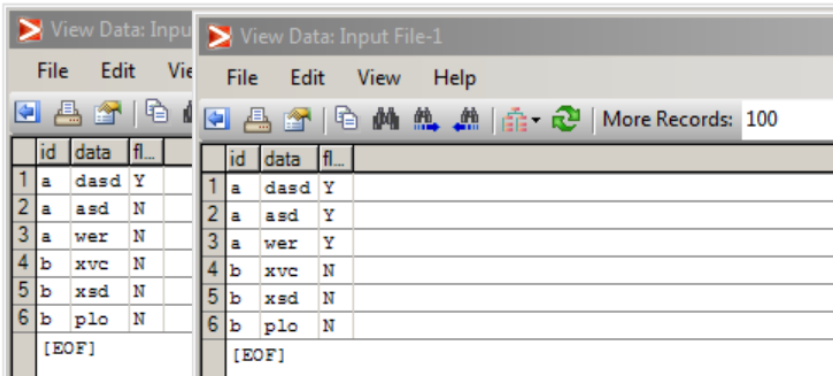
example

```
$ m_eval 'char_string(string_char("A",1)+32)'
"a"

$ m_eval 'string_char(str = "a", index = 1)'
97

$ m_eval 'string_char("b",1)'
98

$ m_eval 'string_char("A",1)'
65

$ m_eval 'char_string(97)'
"a"
```



55.





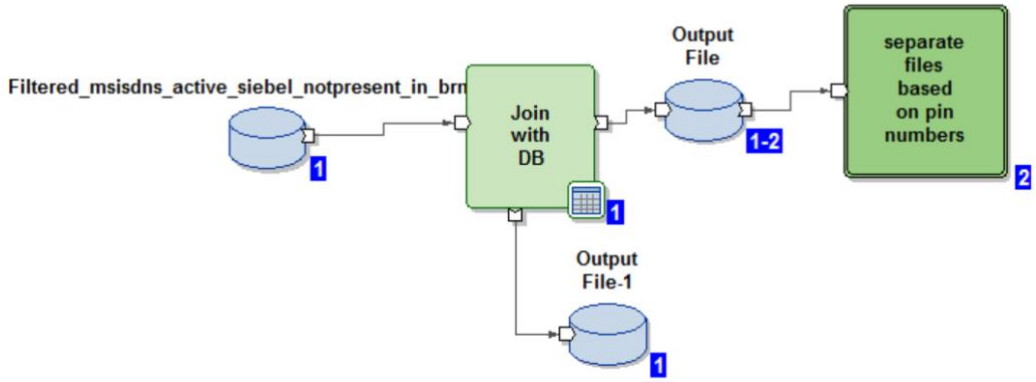
Scan

Key :- id;

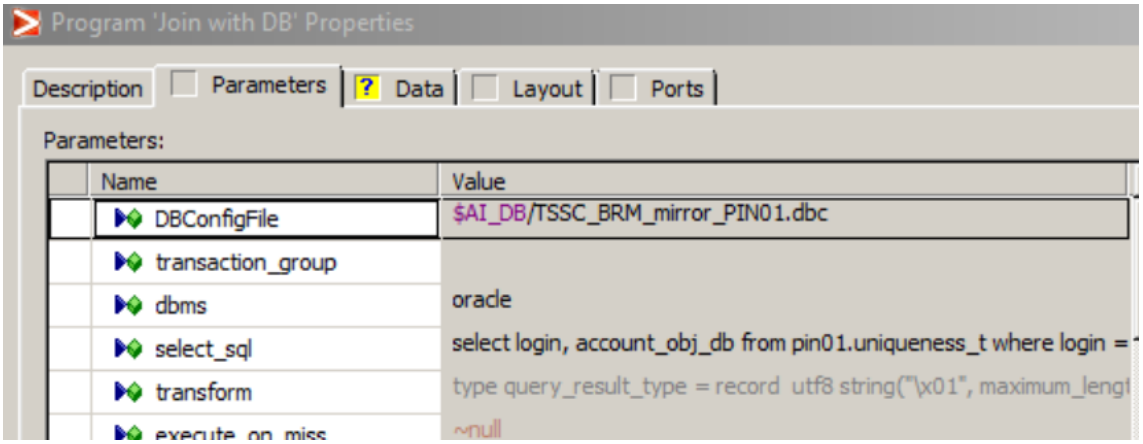
Transform

```
type temporary_type=
record
decimal("|")count;
end;

 temp :: initialize(in) =
 begin
 temp.count ::0;
 end;
 out ::scan(temp,in)=
 begin
 out.count ::if (in.flag =="Y")temp.count + 1 else temp.count;
 end;

 out :: finalize(temp, in) =

 begin

out.id :: in.id;

out.data :: in.data;

 out.flag :: if(temp.count>=1) "Y" else in.flag;

 end;
```

Join with DB



Join with DB configure



Select_sql

```
select login, account_obj_db from pin01.uniqueness_t where login =:serial_num
```

Transform

```
type query_result_type = record
  utf8 string("\x01", maximum_length=255) login = NULL("") /*VARCHAR2(255)*/;
  decimal("\x01",0, maximum_length=39, sign_reserved) account_obj_db =
NULL("") /*NUMBER(38)*/;
  string(1) newline = "\n";
end;

/* This type is optional.*/
// type key_type = NULL_TYPE;

/* This type is optional.*/
// type insert_type = NULL_TYPE;

/*Database lookup transform*/
out::join_with_db(in,query_result)=
begin
out.login :: query_result.login;
out.account_obj_db :: query_result.account_obj_db;
out.newline :: "\n";
end;
```

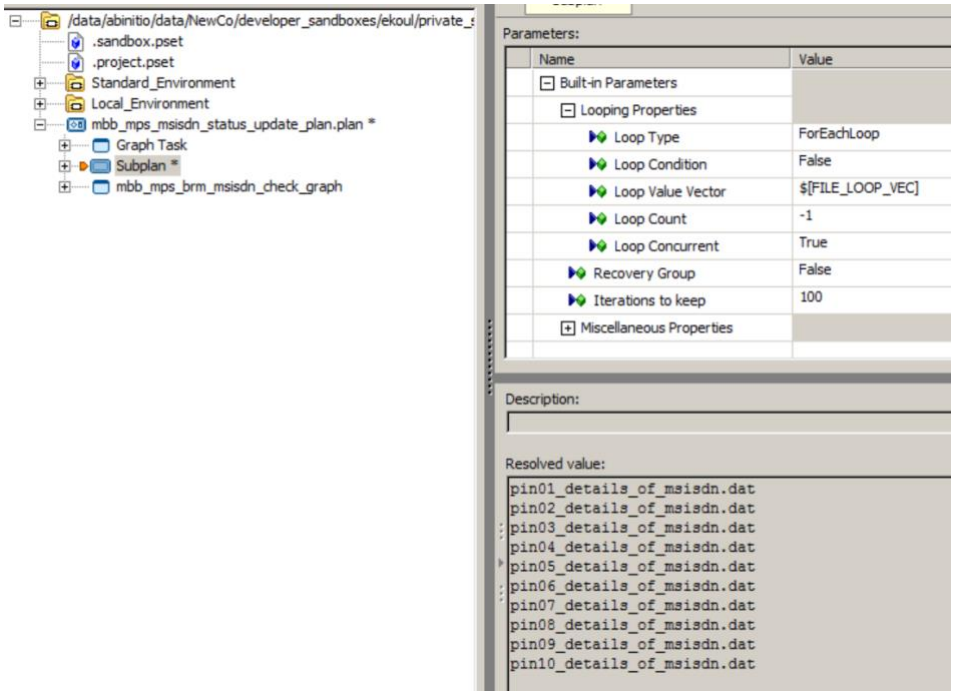
o/p dml

```
/* DML Generated for SQL: select login, account_obj_db from pin01.uniqueness_t
 * On: Tue Jul 18 09:32:18 2017
 */
record
  utf8 string("\x01", maximum_length=255) login = NULL("") /*VARCHAR2(255)*/;
  decimal("\x01",0, maximum_length=39, sign_reserved) account_obj_db =
NULL("") /*NUMBER(38)*/;
  string(1) newline = "\n";
end
```

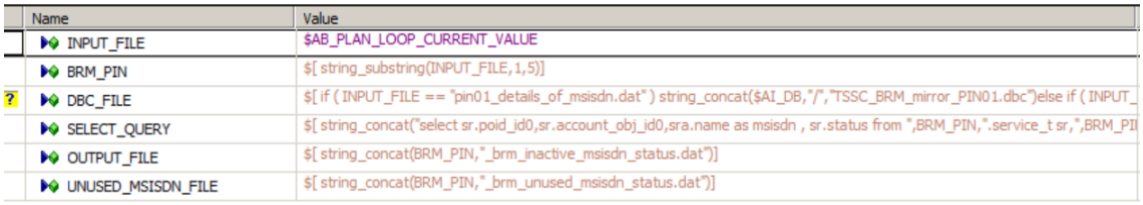
Reformat

```
/*Function returning index of output port*/
output_index_out::output_index(in)=
begin
output_index_out:: if (in.account_obj_db == 1)0
        else if(in.account_obj_db == 2)1
        else if(in.account_obj_db == 3)2
        else if (in.account_obj_db == 4) 3
        else if(in.account_obj_db == 5)4
        else if(in.account_obj_db == 6)5
        else if(in.account_obj_db == 7)6
        else if(in.account_obj_db == 8)7
        else if(in.account_obj_db == 9)8
        else 9;

end;
```

subplan-



$AB_PLAN_LOOP_CURRENT_VALUE--



Name	Value
INPUT_FILE	$AB_PLAN_LOOP_CURRENT_VALUE
BRM_PIN	$[string_substring(INPUT_FILE,1,5)]
DBC_FILE	$[if (INPUT_FILE == "pin01_details_of_msisdn.dat") string_concat($AI_DB,"/","TSSC_BRM_mirror_PIN01.dbc")else if (INPUT_
SELECT_QUERY	$[string_concat("select sr.poid_id0,sr.account_obj_id0,sra.name as msisdn , sr.status from ",BRM_PIN,".service_t sr,",BRM_PI
OUTPUT_FILE	$[string_concat(BRM_PIN,"_brm_inactive_msisdn_status.dat")]
UNUSED_MSISDN_FILE	$[string_concat(BRM_PIN,"_brm_unused_msisdn_status.dat")]

DBC_FILE

$[

if (INPUT_FILE == "pin01_details_of_msisdn.dat")
string_concat($AI_DB,"/","TSSC_BRM_mirror_PIN01.dbc")

else if (INPUT_FILE == "pin02_details_of_msisdn.dat")
string_concat($AI_DB,"/","TSSC_BRM_mirror_PIN02.dbc")

else if (INPUT_FILE == "pin03_details_of_msisdn.dat")
string_concat($AI_DB,"/","TSSC_BRM_mirror_PIN03.dbc")

else if (INPUT_FILE == "pin04_details_of_msisdn.dat")
string_concat($AI_DB,"/","TSSC_BRM_mirror_PIN04.dbc")

else if (INPUT_FILE == "pin05_details_of_msisdn.dat")
string_concat($AI_DB,"/","TSSC_BRM_mirror_PIN05.dbc")

else if (INPUT_FILE == "pin06_details_of_msisdn.dat")
string_concat($AI_DB,"/","TSSC_BRM_mirror_PIN06.dbc")

else if (INPUT_FILE == "pin07_details_of_msisdn.dat")
string_concat($AI_DB,"/","TSSC_BRM_mirror_PIN07.dbc")

else if (INPUT_FILE == "pin08_details_of_msisdn.dat")
string_concat($AI_DB,"/","TSSC_BRM_mirror_PIN08.dbc")

else if (INPUT_FILE == "pin09_details_of_msisdn.dat")
string_concat($AI_DB,"/","TSSC_BRM_mirror_PIN09.dbc")

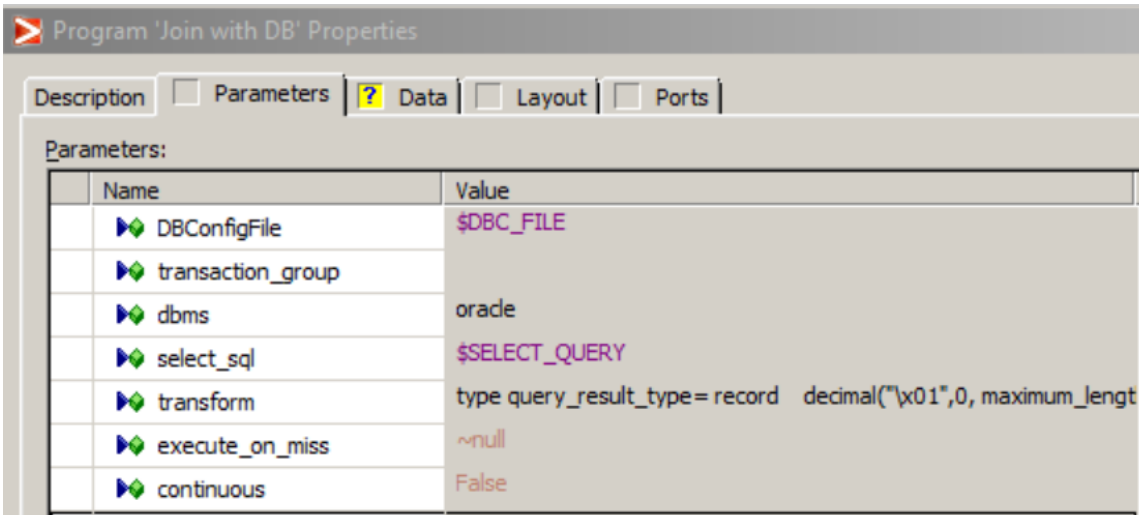
else if (INPUT_FILE == "pin10_details_of_msisdn.dat")
string_concat($AI_DB,"/","TSSC_BRM_mirror_PIN10.dbc")]

Select_query

$[string_concat("select sr.poid_id0,sr.account_obj_id0,sra.name as msisdn , sr.status from ",BRM_PIN,".service_t sr,",BRM_PIN,".service_alias_list_t sra

where sr.poid_id0=sra.obj_id0

and sra.name =:login and sr.status = '10100'")]

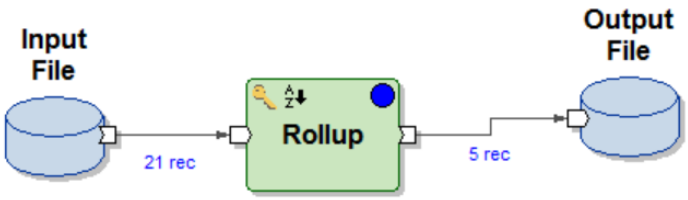


Transform

```
type query_result_type= record
  decimal("\x01",0, maximum_length=39, sign_reserved) poid_id0 = NULL("")
/*NUMBER(38)*/;
  decimal("\x01",0, maximum_length=39, sign_reserved) account_obj_id0 =
NULL("") /*NUMBER(38)*/;
  utf8 string("\x01", maximum_length=128) msisdn = NULL("") /*VARCHAR2(128)*/;
  decimal("\x01",0, maximum_length=39, sign_reserved) status = NULL("")
/*NUMBER(38)*/;
  string(1) newline = "\n";
end;

/*Generated type from select statement*/
out :: join_with_db(in, query_result) =
begin
out.* :: query_result.*;
end;
```

56.

How to find duplicate count of a single record.



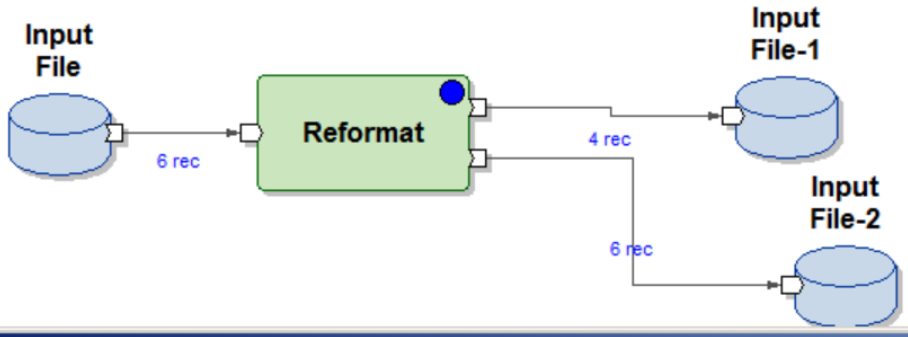
Rollup :- Key (id)

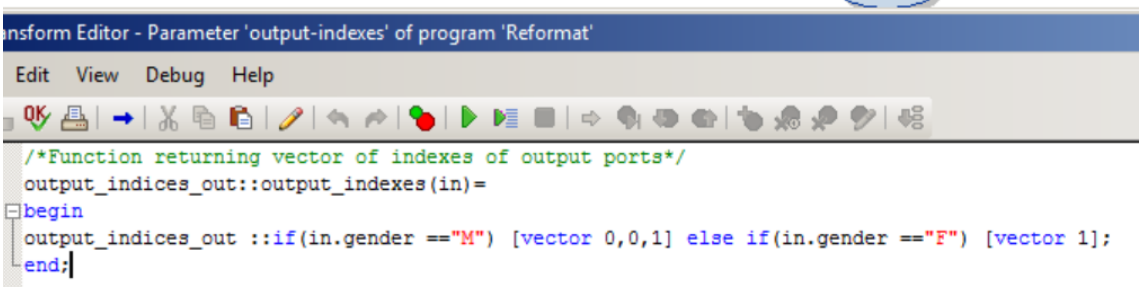
Transform

```
out :: rollup(in) =
begin

  out.data ::in.data;
```

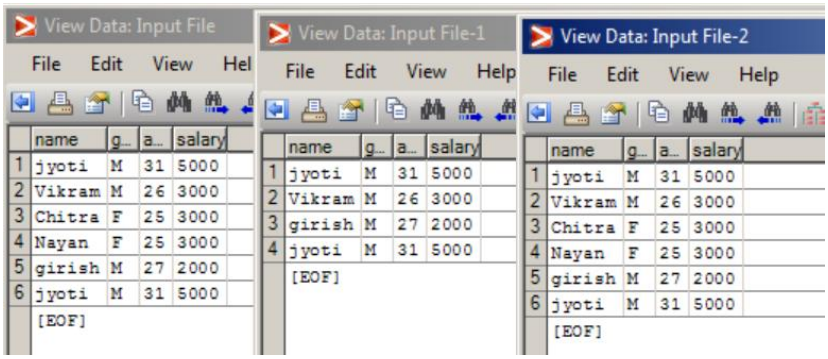
```
  out.count_data :: (decimal("|"))(count(in.data)-1);
end;
```

57. Output indexes example

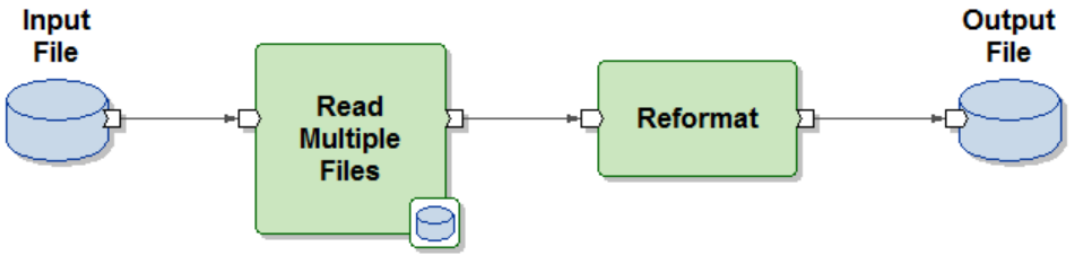




Note :- If you declare same index value twice or thrice in same vector then it will satisfy the fst condition only.



58. Read multiple file example



Input dml

```
record
string("\n")file_list;
end
```

Read multiple file

```
filename::get_filename(in)=
```

```
begin
filename ::string_concat($AI_SERIAL, '/',in.file_list);
end;

port tab

/*
               NOTICE
  COPYRIGHT 2006, 2008 AB INITIO
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    USE AND DISCLOSURE IS RESTRICTED BY CONFIDENTIALITY & LICENSE CONDITIONS
*/
include
"/data/abinitio/data/NewCo/developer_sandboxes/jmohanty/practice/dml/transacti
on_type.dml";
metadata type = transaction;

transaction_type.dml

type transaction =
  record
    date("YYYY.MM.DD") trans_date;
    decimal(9,0) account_id;
    decimal(10.2) amount;
    string('\n') description;
  end;

xfr

/*
               NOTICE
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    USE AND DISCLOSURE IS RESTRICTED BY CONFIDENTIALITY & LICENSE CONDITIONS
*/
out :: map_trans_kind(description) =
begin
  out :1: if (string_index(description, "ATM"))    "A";
  out :2: if (string_index(description, "Teller")) "T";
  out :3: if (string_index(description, "Check"))  "C";
  out :: "O";
end;

transform :

include
"/data/abinitio/data/NewCo/developer_sandboxes/jmohanty/practice/xfr/map_trans
_kind.xfr";

out::reformat(in) =
begin
  out.* :: in.*;
  out.trans_kind :: map_trans_kind(in.description);
end;
```

o/p dml

```
/*
               NOTICE
  COPYRIGHT 2006, 2008 AB INITIO
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    USE AND DISCLOSURE IS RESTRICTED BY CONFIDENTIALITY & LICENSE CONDITIONS
*/
type processed =
  record
    date("MMM DD, YYYY") trans_date;
    decimal(9,0) account_id;
```

```
    decimal(10.2) amount;
    string('\n') trans_kind;
  end;


/*
              NOTICE
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*/
include
"/data/abinitio/data/NewCo/developer_sandboxes/jmohanty/practice/dml/processed
_type.dml";
metadata type = processed;
```

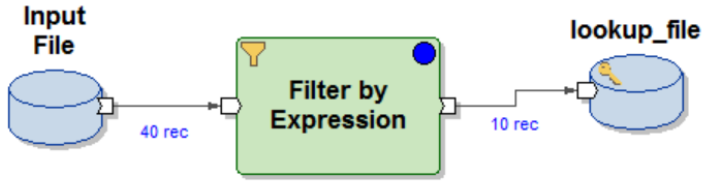
59. Sequential load mp

Input : Data contains some random value.

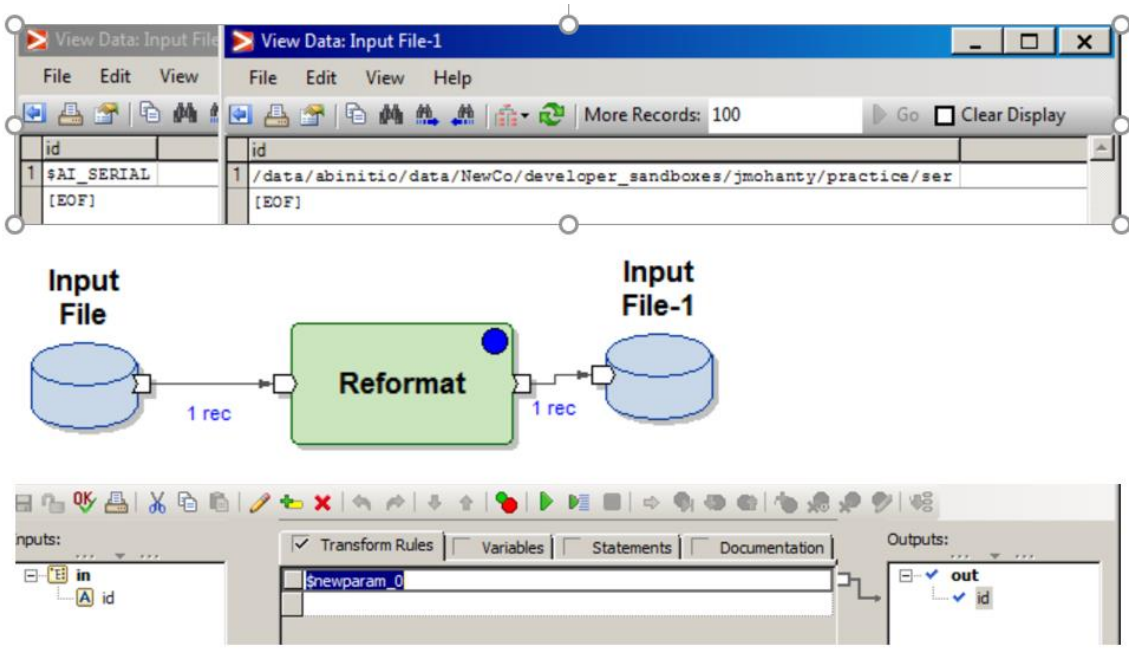
d...
10
11
12
13
14
15
16
17
1
2
3
4
5
6
7

Fbe

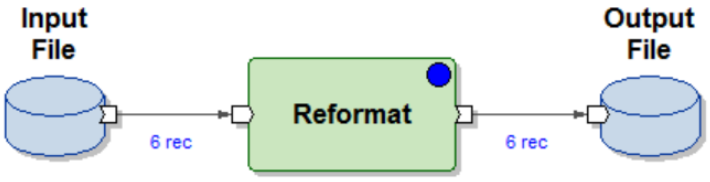
```
!lookup_match("lookup_file",data)and next_in_sequence()<=10;
```



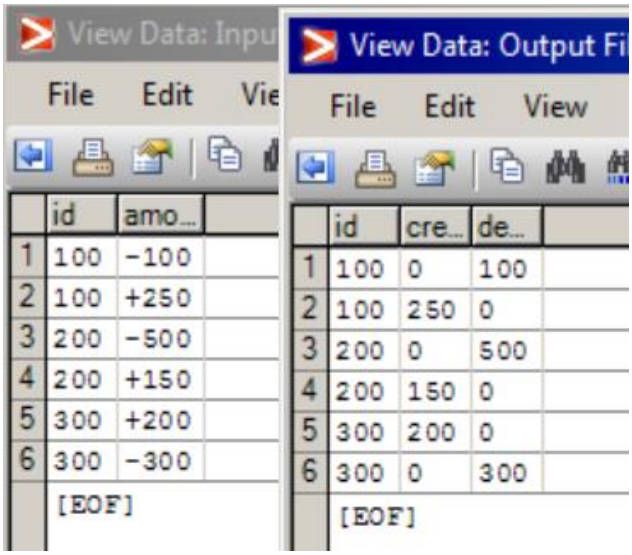
60.



61.



If input data is +ve then goes to credit column else debit column



	id	amo...
1	100	-100
2	100	+250
3	200	-500
4	200	+150
5	300	+200
6	300	-300
	[EOF]	

	id	cre...	de...
1	100	0	100
2	100	250	0
3	200	0	500
4	200	150	0
5	300	200	0
6	300	0	300
	[EOF]		

Reformat

out :: reformat(in) =
begin

```
let string("") vec1= allocate_with_defaults();
vec1  = string_substring(in.amount,1,1);
  out.id :: in.id;
  out.credit :: (decimal("|"))if(vec1 =="+") in.amount else 0;
  out.debit :: (decimal("|"))if(vec1 =="-")
string_substring(in.amount,2,length_of(in.amount)) else 0;
end;
```

```
out :: reformat(in) =
begin
let string("") vec1= allocate_with_defaults();
vec1  = string_substring(in.amount,1,1);
  out.id :: in.id;
  out.credit :: (decimal("|"))if(vec1 =="+") in.amount else 0;
  out.debit :: (decimal("|"))if(vec1 =="-") string_substring(in.amount,2,length_of(in.amount)) else 0;
end;
```