1. **Through wizard:**
   a. **Tabular report**
   b. **Group left**
   c. **Group above**
   d. **Matrix report**
   e. **Matrix with group**
2. **Building report manually**
   a. **Data model:**
      i. **Query**
      ii. **Groups**
      iii. **Colums**
      iv. **Data links**
      v. **Parameter**
   b. **Layout model:**
      i. **Frame**
      ii. **Repeating frame**
      iii. **Field**
      iv. **Text**

Tools used in reporting tools
1. **pinning a tool**
2. **confine mode**
3. **flex mode**

Confine Mode:

ON: Child objects cannot be moved outside their enclosing parent object.

OFF: Child objects can be moved outside their enclosing parent object.

Flex Mode:

ON: Parent borders "stretch" when child objects are moved against them.

OFF: Parent borders remain fixed when child objects are moved against them.

Confine mode	Flex mode	
On	On	Object can't be moved outside, PF moved along with object
on	off	Object moves with in pf, pf not moved with object
Off	on	Though object can be moved outside pf, but it is diff b/c pf moves along with the object

Off	off	It is what we use. object can be moved outside pf, pf not changed while moving object

4. select parent frame
5. align objects:
   a. goto arrange menu--> allign objects->select vertically alling
   b. layout→alignment
6. size objects:
   a. go to arrange menu>>size objects.
   b. Layout→size objects

1. **Tabular report**
   a. **Max record per page**

   b. **Page numbers**

   c. **Conditional formatting**

   d. **Summary column**
      i. **Count of empno outside**
      ii. **Count of empno in group level (we get sequence no)**
      iii. **TSAL**
      iv. **TCOMM**

   e. **Formula column**
      i. **Sal+ comm (WE SHOULD TAKE FORMULA COLUMN IN GROUP LEVEL,BECAUSE WE ARE ADDING SUM AND COMM)   RETURN(:SAL+NVL(:COMM))**
      ii. **TSAL+TCOMM**
                 RETURN (:TSAL+:TCOMM);

 NOTE: IF WE WANT TO DO ONE COLUMN FROM OUTTER REGION AND ONE FROM GROUP LEVEL REGION, IT IS NOT POSSIBLE.

   iii. **WE CAN ALSO USE FORMULA COLUMN FOR DISPLAYING ORG_NAME (AFTER DISCUSSING BIND PARAMETER).**

Ex: select deptno into v from dept where deptno=:dno;

f. **Parameters**
  i. **Bind parameter**
      1. **Initial values**
      2. **List of values**
      3. **Bind parameters only accept a single value**
      4. **Multiple bind parameters**
          a. **Where deptno=:dno and job=:jo**
          b. **Where between :fdno and :tdno**

Note: **whenever we are altering bind parameters, don't forget to remove in object navigator window**

  ii. **Lexical parameters**
      1. **Where clause**
              &cond
              Where deptno=10
              Order by sal
              Where deptno=10 and job=clerk
      2. **From clause**
          a. **&p_1 EMP**
      3. **Select clause**
          a. **&p1 empno, &p2 ename (here for ename(p2): deptno, sal can be applied since ename datatype is varchar2, other datatype values are not applied to empno(p1) since its datatype is number)**
      4. **Bind and lexical parameter**
          a. **Where deptno=:dno &cond**
              i/p: 10
                  and job='CLERK'

  iii. **System parameters**
      1. **How to select output format as XL,PDF,XML,TXT in output parameter level?**
          a. **Desformat:**
              i. **Initial value: delimited**

b. **Destype:**
   i. Initial value: file
c. **Desname:**
   i. Initial value: path where we need to create the file

   C:\REPORTS\KIRAN\EMP.TXT

   C:\REPORTS\KIRAN\EMP.XL

   C:\REPORTS\KIRAN\EMP.XML

d. **TAKE A PARAMETER**

   GIVE LOV OF TXT, XML, XL

   AND WRITE THE BELOW CODE IN VALIDATION TRIGGER

```
function P_1ValidTrigger return boolean is
    begin
        IF :P_1='TEXT'
        THEN :DESNAME:='C:\EMP.TXT';
        ELSIF :P_1='XML'
        THEN :DESNAME:='C:\EMP.XML';
        ELSIF :P_1='XL'
        THEN :DESNAME:='C:\EMP.XL';
        return (TRUE);
        ELSE
        RETURN(FALSE);
        END IF;
    end;
```

g. **REPORT TRIGGERS:**
   i. **Before parameter form:**
      ➢ **Fires before the runtime parameter form is displayed. From this trigger we can access and change the values of parameters, pl/sql global variables and report level columns.**
   ii. **After parameter form**
      ➢ **Fires after the runtime parameter form is displayed. Here mostly we will validate parameters to pass it to main query through lexical references**
   iii. **Before report**
      ➢ **Fires before the report is executed but after queries are passed and data is fetched. Here is the place all the references will go and sit into the main query.**

iv. **Between pages**

➢ Fires before each page of the report is formatted, except the very first page. This trigger can be used for the customized page formatting. In the previewer, this trigger only fires the first time that you go to page. If you subsequently return to the page, the trigger does not fire again. It will fire only in one direction... not in bidirectional if there are 10 pages it will only 9 pages.

v. **After report (this is done while giving for printing):**

➢ Fires after you exit the previewer, or after report output is sent to a specified destination such as file, a file and printer. This trigger can be used to clean up any initial processing that was done, such as deleting tables. Note, that this trigger always fires, whether or not you report completed successfully

vi. **Validation trigger**

➢ Validation trigger are pl/sql function that are executed when parameter valves are specified on the command line and when you accept the runtime parameter form. (notice that this means each validation trigger may fire twice when you execute the report) validation triggers are also used to validate the initial valve of the parameter in the parameter property sheet.

For invalidate parameter (dept=51) we need to give the message

This validation trigger is only available for parameters.

Write the below code

```
function DNOValidTrigger return boolean is
    begin
    IF :DNO>=50 THEN
    SRW.MESSAGE (1,'ENTER VALUES 10,20,30,40');
    return (TRUE);
    ELSE
    RETURN(FALSE);
    END IF;
    end;
```

vii. **Format trigger:**

1. No data found, end of report
2. Color changing

Ex: if :sal>2000 then

Srw.set_text_color('red')

For this we can also use conditional formatting

viii. **Action trigger:**

> These are pl/sql procedures executed when a button is selected in the previewer. This trigger can be used to dynamically call another report (drill down) or execute any another pl/sql
  1. By clicking this button we get another table data, its like hyperlink
  2. It is available in 6i, here in 10g it is not available.

h. Lexical parameters with report triggers:
  i. This condition is used when end users doesn't know the condition what to pass

  ii. But we know it, what to pass

  iii. B/w f_empno and t_empno
  1. Take two parameter in object navigator window
  2. Write the below code in after parameter trigger

```
If  :f_empno is null  and :t_empno is null then
:cond:='and 1=1;'

If :f_empno is not null and :t_empno is not null then
:cond:='and emp.empno
between'||':f_empno'||'and'||':t_empno';
End if;
Return (true);
End;
```

>BOTH ARE NULL
>BOTH ARE ENTERED
>ONLY ONE VALUE IS ENTERED (IT SHOULD GET ERROR)
>ONLY FROM VALUE IS ENTERED: THEN IT SHOULD GET FROM THAT GIVEN VALUE TO LAST VALUES
>ONLY TO VALUE IS ENTERED: THEN IT SHOULD GET FROM INITILAL RECORDS TO GIVEN VALUE

i. Place holder columns:
  i. It acts like a global variable, it is an empty holder and compilation time it holds the data. so there is no need to create another variable in pl/sql procedure or functions

  ii. Max salary employee information
  1. Create a summary column with max sal func()
  2. Create a place holder column in outer region

3. Create a formula column in group level and write the code

```
If :sal=:cs_1 then
:cp_1:=:ename
End if;
Return (:cp_1);
```

iii. Display company name using programing unit

1. Take place holder column, change datatype to character
2. Goto object navigator, goto programing units

```
Click on package spec. Mention like before_report
Again click on +
Click on package body. Mention like before_report
Write below code
Package body before_report is
        Procedure get_company_name is
        L_company_name varchar(2);
Begin
        Select sob.name into l_company_name
        From gl_ledgers sob and ar_system_parameters ar
        Where sob.kedger_id=ar.set_of_books_id;
        :cp_1:=l_comoany_name;
Exception
        When no_data_found
        Srw.message ('100', before_report.get_company_name :is
not found );
        Raise;
        End;
End;
```

j. Creation of table dynamically

```
function BeforeReport return boolean is
begin
        srw.do_sql('create table hbotemp as select * from dept');
        srw.message(5,'table created');
        return (TRUE);
exception
        when srw.do_sql_failure then
        srw.message(6,'table is not created successfully');
```

end;

k. Display amount into words

    i. Take one summary column at the report level and one formula column at report level. Write the coding like below

             Retutn (f_words(:cs_amt));

DISPLAY MULTILE VALUES IN A SINGLE STRING

include zero invoice amounts

2. Master detail report:

    a. Maximum record per page at parent rf

    b. Placing of summary columns @ group level, outter region

    c. Reset at

3. Multi layout models

    a. Format triggers

Questions:

1. Major diff b/w discoverer and rdf reports?

a.

2. diff b/w frame and repeating frame?

a.

Frame	Repeating frame
1. Frames are used to surround other objects and protect them from being overwritten or pushed by other objects	1. Repeating frames surround all of the fields that are created for a group's columns
2. Will be used to display the layout objects only one time like totals, titles, Headings and so on.	2. Will be used to display the objects multiple times like database columns, Sub Totals, Page Totals.......
3.fields in the frame are printed only once	3. fields in repeating frame are prints once for each record of group
4.it has no arrow symbol in layout model.	4.in layout model you can find an arrow symbol to identify it as repeating frame

3. Place holder column and formula column?

a. formula columns:

We use formula column ==to calculate some information dynamically== using information based on the columns of the data model or from the concurrent program parameters. ==It is basically used to apply some custom logic on input data and return some value.== Formula columns can be written using PL/SQL syntax and we can use pl/sql functions for computation on the data. Formula column will accept data of Character, Number, or Date type.

Inside or outside data group?

If we want to calculate a value for every row place the formula column in the group of the data model , so that it called every time for every record and if we want to derive a value at report level place the formula column outside to the data group.

Formula columns are generally preceded by ==CF_== to distinguish from other columns. Column names or parameters with a prefix ':' in formula column are considers as input to a formula column.

Examples:

1. Comparison of data in two different columns/variables and perform some action.
2. Using some standard oracle pl/sql functions to find out some values like, finding out the master org using oracle standard function as shown below

   oe_sys_parameters.VALUE('MASTER_ORGANIZATION_ID',mo_global.get_current_org_id())

3. When you need to use any If-else block
4. To execute some sql query to find out email-address of a party using party_id

Place Holder column

Place holder column is an empty container at design time which is ==used to hold some value in run time==, they are like local/global variables which can be used in the logic of a formula column or in report triggers. Value in the place holder column can be directly accessible in the report layout.

Inside or outside data group?

We can use this place holder columns inside the data group or outside the data group. Place Holder column can be of Character, Date or Number datatype. Place Holder generally preceded by ==CP_== to distinguish from other columns.

4. System parameters

a. c in notes.

5. Diff types of pages/ sections?

a.

6. Diff b/w flex mode and confine mode?

a. <u>Confine Mode:</u>

ON: Child objects cannot be moved outside their enclosing parent object.

OFF: Child objects can be moved outside their enclosing parent object.

<u>Flex Mode:</u>

ON: Parent borders "stretch" when child objects are moved against them.

OFF: Parent borders remain fixed when child objects are moved against them.

7. Trigger firing sequence and explain every trigger?

a. c in notes.

8. What is user exit and explain all of them?

a. The program which makes USER to EXIT from original environment to perform certain action is called USER EXIT.

b. User exits are programs written in any of the language like java, c+, pro c to perform certain action.

c. User exits when called from report trigger moves the control from report to outside program there it performs the action programmed and returns back to report environment.

d. User exits plays very important role in oracle apps with the help of this we can capture value at runtime with profile option

e. P_con_request_id is the mandatory parameter. It is used to generate the concurrent request id

f. SRW package: SRW is package name used while creating a report using rdf. It helps to perform action at run time

g. User exits are 5 types:

   a. SRW.USER_EXIT('FND SRWINIT')

   b. SRW.USER_EXIT('FND SRWEXIT')

   c. SRW.USER_EXIT('FND FORMAT_CURRENCY')

   d. SRW.USER_EXIT('FND FLEXIDVAL')

   e. SRW.USER_EXIT('FND FLEXSQL')

h. SRW.USER_EXITV('FND SRWINIT'):

   a. It is used in AOL report and is used to setup your user profile. If you are in a multi_org environment, this ensures that your report display

9. What is anchor and types?

a. Anchors are used to determine the vertical and horizontal positioning of a child object relative to its parent. The end of the anchor with a symbol on it is attached to

the parent object..

Since the size of some layout objects may change when the report runs (and data is actually fetched), you need anchors to define where you want objects to appear relative to one another. An anchor defines the relative position of an object to the object to which it is anchored. Positioning is based on the size of the objects after the data has been fetched rather than on their size in the editor. It should also be noted that the position of the object in the Layout editor effects the final position in the report output. Any physical offset in the layout is incorporated into the percentage position specified in the Anchor property sheet.

10. How to run a report from a report?

a.   fnd_request.submit_request('report name')

11. How to execute DDL commands in a report?

a.   srw.do_sql(create table hbo as select * from emp)

12. What is matrix report? How many types of matrix reports?

a.

13. How to reset page?

a. take two flex fields, one for page number other for total pages goto→properties pallete, field node, page resetting, select master repeating frame.

For both fields we must set it.

14. How to limit the rows in page?

a. using feature maximum records per page.

15. What is page break?

a.   there are following ways to put a page break

1. you can set Maximum Records per page of repeating frame (if you want to put a page break for each group)

2. you can set page break after / before of any object in the report

16. How to debug the report?

a.   You can trace in Oracle application Help menu. Start Oracle application Goto Help Help->Diagnostics->Trace-> Regular Trace. will ask for Apps Pass. Wil Show Not dialog Box which Gave you the path of Trace file. FTP the Trace file.

17. What are user parameter in the report?

a. c in notes.

18. Report registration steps?

a. c in notes.

19. What are global variables in report?

a.

20. How can you change the select statement of query at runtime?

a.

21. Name some of the procedures in SRW package?

a.   The Report builder Built in package know as SRW Package (Sql Report Writer) This package extends reports, Control report execution, output message at runtime, Initialize layout fields, Perform DDL statements used to create or Drop temporary table, Call User Exit, to format width of the columns, to page break the column, to set the colors

Ex: SRW.DO_SQL, It's like DDL command, we can create table, views, etc,

SRW.SET_FIELD_NUM

SRW. SET_FIELD_CHAR

SRW. SET FIELD _DATE

SRW. MESSAGE

22. Diff b/w d2k reports and oracle apps report?

a.

23. What ad-hoc reports?

a. The actual reports are created by business end-users.
   Ad-hoc is Latin for "as the occasion requires."
      This means that with this BI model, users can use their reporting and analysis solution to answer their business questions "as the occasion requires," without having to request queries from IT.

Ad-hoc report means temporary report.these reports are useful for a certain period and they are not useful for a long time purpose.

24. What is Page Protector?

a. The Page Protect property indicates whether to try to keep the entire object and its contents on the same logical page. Setting Page Protect to Yes means that if the contents of the object cannot fit on the current logical page, the object and all of its contents will be moved to the next logical page.

Ex: if you set yes, the object information prints another page.