

# Systeme d'informations et applications web – TD

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Semestre 4



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# Première partie

## Base de données

# Rappel sur le SQL – LDD/LMD

```
1 | create table PROJET(  
2 |   NP varchar(4),  
3 |   nomP varchar(32),  
4 |   ne varchar(4),  
5 |   pbudget decimal(16),  
6 |   constraint pk_projet PRIMARY KEY(np),  
7 |   constraint fk_projet_ne FOREIGN KEY(ne) REFERENCES equipe(ne),  
8 |   constraint ck_projet_pbudget CHECK(ne >= 0)  
9 | );  
  
1 | update PROJET set pbudget = pbudget * 0.80;  
2 | update PROJET set pbudget = pbudget + 5000 where ne='e1';  
  
1 | delete from AFF where nc=(select nc from chercheur where nomc='Jean');  
  
1 | alter table EQUIPE ADD (  
2 |   np decimal(3),  
3 |   bt decimal(3),  
4 |   constraint ck_equipe_bt check(bt >= 0),  
5 |   constraint ck_equipe_np check(np >= 0)  
6 | );  
7 |  
8 | update equipe e1 set np = (select count(*) from projets WHERE projets.ne=e1.ne),  
9 |   bt = (select sum(pbudget) from projets where projets.ne=e1.ne);
```

# Projection – Sélection – Agrégation

1.  $R = \Pi_{ne} \text{ equipe}$   $R[ne]$   
`| select distinct NE from equipe;`
2.  $R = \Pi_{nomP, pBudget}(\sigma_{Ne='e1'} \text{ equipe})$   $R[nomp, pbudget]$   
`| select distinct nomp, pbudget from projet where ne='e1';`  
`| select distinct nomp, pbudget from (select * from projets where ne='e1');`
3.  $R = \Pi_{nomC, nc}(\sigma_{nomc \text{ like } '%a\%'} \text{ chercheur})$   $R[nomc]$   
`| select distinct nomc from chercheur where nomC like '%a%';`  
`| select distinct nomc from (select * from chercheur where nomC like '%a%');`
4.  $R = \text{COUNT}(\text{projet}, ne, np)$   $R[ne, count(np)]$   
`| select ne, count(np) as COUNT_NP from projet group by ne;`
5.  $R = \text{COUNT}(\text{aff}, np, nc)$   $R[np, count(nc)]$   
`| select np, count(nc) as COUNT_NC from aff group by np;`
6.  $R = \text{SUM}(\text{projet}, ne, pBudget)$   $R[ne, count(pBudget)]$   
`| select ne, sum(pBudget) as SUM_PBUDGET from projet group by ne;`
7.  $R = \text{COUNT}(\text{aff}, nc; ; \text{count}(np) = 2)$   $R[nc]$   
`| select nc from aff group by nc having count(np) = 2;`

# Imbrication – Ensembliste

## R Interdiction d'utiliser les jointures

$$1. R = \Pi_{\text{nome}}(\sigma_{ne \in (\Pi_{ne} \text{ Projet})})$$

```
select distinct nome from equipe e1
where e1.ne in (select distinct ne from projet);
```

$$2. R = \Pi_{\text{nomc}}(\sigma_{nc \in (\Pi_{nc}(\sigma_{np='p1'} \text{ aff}))} \text{ Chercheur})$$

```
select distinct nomc from chercheur
where nc in (select distinct nc from aff where np='p1');
```

3.

$$R = \Pi_{\text{nomc}}(\sigma_{nc \in R_1} \text{ chercheur})$$

$$R_1 = \Pi_{nc}(\sigma_{np \in R_2} \text{ aff})$$

$$R_2 = \Pi_{np}(\sigma_{ne='e1'} \text{ Projet})$$

```
select distinct nomc from chercheur
where nc IN (select nc from aff
              where np in (select np from projet where ne = 'e1'));
```

$$4. \Pi_{\text{nomc}}(\sigma_{nc \in (\Pi_{nc} \text{ aff})} \text{ chercheur})$$

```
select distinct nomc from chercheur where nc in (select distinct n from aff);
```

$$5. \Pi_{\text{nomc}}(\sigma_{nc \notin (\Pi_{nc} \text{ aff})} \text{ chercheur})$$

```
select distinct nomc from chercheur where nc not in (select distinct n from aff);
```

6.

**R** À partir de cette question la notation algébrique n'est pas indispensable. L'utilisation des opérateurs ensembliste est indispensable, chercher ensuite une requête non ensembliste

```
select nomc from chercheur where nc in (
  select ne from aff
  where np in (select np from projet where nomp = 'SRI')
)
intersect
select nomc from chercheur where nc in (
  select ne from aff
  where np in (select np from projet where nomp = 'BIG')
)
```

7.

```
(select nomc from chercheur where nc in (
  select ne from aff
  where np in(select np from projet where nomp = 'SRI')
)
intersect
select nomc from chercheur where nc in (
  select ne from aff
  where np in(select np from projet where nomp = 'BIG')
))
except
(select nomc from chercheur where nc in (
  select ne from aff
  where np in(select np from projet where nomp <> 'SRI' and nomp <> 'BIG')
)
);
```



# Jointure

1. 

```
select ne, nome, pbudget from equipe, projet
where equipe.ne = projet.ne and equipe.ne = 'e1';
```
2.  $R = \Pi_{nomc,nome}(((chercheur \bowtie_{nc=nc}) \bowtie_{np=np} projet) \bowtie_{ne=ne} equipe)$   

```
select nomc, nome from equipe, chercheur, aff
where aff.nc = chercheur.nc and aff.ne = equipe.ne and aff.np = projet.np;
```
3.  $R = count((\Pi_{ne,nc}(aff \bowtie_{np=np} projet)) \bowtie_{ne=ne} equipe, nome, nc);$   

```
select nome, count(nc)
from equipe, aff a, projet p
where a.np = p.np and p.ne = a.ne group by nome;
```

4.

$$\begin{aligned}
 R_1 &= \Pi_{numc,nomc}((chercheur \bowtie_{nc=nc} aff) \bowtie_{np=np} (\sigma_{nomp='sri'}projet)) \\
 R_2 &= \Pi_{numc,nomc}((chercheur \bowtie_{nc=nc} aff) \bowtie_{np=np} (\sigma_{nomp='big'}projet)) \\
 R &= R_1 \cap R_2
 \end{aligned}$$

```
(select nc, nomc
from chercheur c, aff a, projet p
where p.nomp = 'SRI'
and c.nc = aff.nc
and aff.np = p.np )
intersect
(select nc, nomc
from chercheur c, aff a, projet p
where p.nomp = 'BIG'
and c.nc = aff.nc
and aff.np = p.np )
```

5.

```
select nomc, count(np)
from chercheur c, aff a, projet p
where c.nc = a.nc and a.np = p.np
group by nomc;
```

6.

```
select nomc, avg(pbudget)
from chercheur c, aff a, projet
where c.nc = a.nc and a.np = p.np
group by nomc
```

## Deuxième partie

### XHTML et CSS

# XHTML

```

1 <body>
2   <table>
3     <tr>
4       <td>Nom</td>
5       <td>Prénom</td>
6       <td>Site web</td>
7       <td>E-mail</td>
8     </tr>
9     <tr>
10      <td>de Roquemaurel</td>
11      <td>Antoine</td>
12      <td><a href="http://ici.fr">Site Web</a></td>
13      <td><a href="mailto:blabla@ici.com">E-mail</a></td>
14    </table>
15 </body>

```

```

1 <body>
2   <h1>Principes de base</h1>
3   <ul>
4     <li>
5       Certaines balises possèdent des attributs qui offrent diverses options
6       <ul>
7         <li>Exemple: attribut <em>method</em> de la balise <em>form</em></li>
8       </ul>
9     </li>
10    <li>
11      Il est possible d'avoir plusieurs attributs
12      <ul>
13        <li>Ordre sans importance</li>
14        <li><em>Attribut="valeur"</em></li>
15      </ul>
16    </li>
17  </ul>
18 </body>

```

```

1 <form method="post" action="traitement.php" >
2   <input type="text" name="operandeGauche" />
3   <select name="operation">
4     <option value="+">+</option>
5     <option value="-">-</option>
6     <option value="*">*</option>
7     <option value="/">/</option>
8     <option value="%">%</option>
9   </select>
10  <input type="text" name="operandeDroite" /><br />
11  <input type="submit" value="envoyer" />
12  <input type="reset" value="vider" />
13 </form>

```

---

# CSS

---

# Troisième partie

## PHP et MySQL

# PHP

## 7.1 Affichage de la table de multiplication par 9

```

1 <table>
2   <?php
3       $valeur = 9;
4       echo 'Table de multiplication par ' . $valeur . '<br/>';
5       echo '<tr>';
6       echo '<td>' . $valeur . '*</td>';
7       for($i=0 ; $i < 9 ; ++$i) {
8           echo '<td>' . $i . '</td>';
9       }
10      echo '</tr>';
11      echo '<tr>';
12      echo '<td>=</td>';
13      for($j=0 ; $j < 9 ; ++$j) {
14          echo '<td>' . $i * $valeur . '</td>';
15      }
16      echo '</tr>';
17  ?>
18 </table>

```

```

1
2   <?php
3   function multiplication($piValeur) {
4   echo '<table>';
5       echo 'Table de multiplication par ' . $piValeur . '<br/>';
6       echo '<tr>';
7       echo '<td>' . $piValeur . '*</td>';
8       for($i=0 ; $i < 9 ; ++$i) {
9           echo '<td>' . $i . '</td>';
10      }
11      echo '</tr>';
12      echo '<tr>';
13      echo '<td>=</td>';
14      for($j=0 ; $j < 9 ; ++$j) {
15          echo '<td>' . $i * $piValeur . '</td>';
16      }
17      echo '</tr>';
18  echo '</table>';
19  }
20  multiplication(42);
21  ?>

```

## 7.2 Calculatrice

```

1 <form method="post" action="traitement.php" >
2   <input type="text" name="operandeGauche" />

```

```

3 <select name="operation">
4 <option value="+">+</option>
5 <option value="-">-</option>
6 <option value="*">*</option>
7 <option value="/">/</option>
8 <option value="%">%</option>
9 </select>
10 <input type="text" name="operandeDroite" /><br />
11 <input type="submit" value="envoyer" />
12 <input type="reset" value="vider" />
13 </form>

1 <?php
2 function operation($pcOperation, $ploperande1, $pl0perande2) {
3     $return = 0;
4     switch($pcOperation) {
5         case '+':
6             $return = $ploperande1 + $pl0perande2;
7             break;
8         case '-':
9             $return = $ploperande1 - $pl0perande2;
10            break;
11         case '*':
12             $return = $ploperande1 * $pl0perande2;
13             break;
14         case '%':
15             $return = $ploperande1 % $pl0perande2;
16             break;
17         default:
18             echo("Erreur");
19     }
20
21
22     return $return;
23 }
24
25 if( isset($_GET['operande1']) && isset($_GET['operande2']) && isset($_GET['
26     operation'])) {
27     echo $_GET['operande1']. ' ' .$_GET['operation']. ' ' .$_GET['operande2']. ' = ' .
28         operation($_GET['operation'], $_GET['operande1'], $_GET['operande2']);
29 } else {
30     echo "Try again";
31 }

```

# MySQL

## 8.1 Sélectionner équipe

```

1 <?php
2 require_once('connect.php');
3
4 if(!($connexion = mysql_pconnect(SERVEUR,NOM,PASSE))) {
5     echo "Beurk";
6     exit;
7 }
8
9 if(!mysql_select_db(BASE,$connexion)) {
10     echo "beurk bis";
11     exit;
12 }
13
14 $resultat = mysql_query('select ne, nome from equipe');
15 echo '<form method="post" action="traitement.php">';
16 echo '<select name="equipe">';
17 while($equipe = mysql_fetch_object($resultat)) {
18     echo '<option value="'. $equipe->ne. '">'. $equipe->nome. '</option>';
19 }
20 echo '</select>';
21 echo '<input type="submit" />';
22 echo '</form>';

```

```

1 <?php
2 require_once('connect.php');
3
4 if(!($connexion = mysql_pconnect(SERVEUR,NOM,PASSE))) {
5     echo "Beurk";
6     exit;
7 }
8
9 if(!mysql_select_db(BASE,$connexion)) {
10     echo "beurk bis";
11     exit;
12 }
13 $ne = (isset($_POST['ne'])) ? $_POST['ne'] : '';
14 $resultat = mysql_query("select np, nomp from projet where ne='". $ne. "'");
15 echo '<ul>';
16 while($projet = mysql_fetch_object($resultat)) {
17     echo '<li>'. $projet->ne. ': '. $projet->nomp. '</li>';
18 }

```