

ANSWERS ON TASK 1

-Method to remove the duplicates:

```
<?php
function removeDuplicate(array $mixarr, $limiter = 300) {
    If( count($mixarr) <= $limiter ){
        $arr = array();
        $n=0;
        $i=0;
        while($i <= count($mixarr)){
            $j=$i+1;
            $k=0;
            while($j <= count($mixarr)){
                if( $mixarr[$i] == $mixarr[$j] ){
                    $k = $k+1; }
                $j = $j+1; }
            if( $k>0 ){
                $i = $i + $k; }
            $arr[$n]=$mixarr[$i];
            $n=$n+1;
            $i=$i+1; }
        return $arr; }
    return false;
} ?>
```

1. This function presens very poor production code, which have only feature of limited functionality. In this case the input value can not be an unlimited array, so that the execution time required and the space used are limited too.
2. The input parametars are an sorted array \$mixarr in ascending order, and can be \$limiter of integer type, which gives the maximum number of members of \$mixarr, the automatic value of \$limiter is 300. If the number of members of \$mixarr less than of \$limiter value, method returns an array without repetition of the same members, if not returns value false.
3. The algorithmic complexity ("big O") of my function is $O(N^2)$, because this function contains two nested "while loops".

ANSWERS ON TASK 2

1.

```
SELECT NAME, SUPERVISOR, NBONUS FROM EMPLOYEES LEFT JOIN BONUS ON EMPLOYEES.EMPID =  
BONUS.EMPID WHERE NBONUS > 1000
```

2.

```
SELECT NAME, SALARY, NBONUS, ( EMPLOYEES.SALARY + BONUS.NBONUS ) AS TOTAL_PAY FROM  
EMPLOYEES LEFT JOIN BONUS ON EMPLOYEES.EMPID = BONUS.EMPID WHERE LOCATION = 'NI'  
ORDER BY TOTAL_PAY DESC
```

-Instead 'NI' may be 'PN' or 'LE' or etc, for others locations.

ANSWERS ON TASK 3

1. With this document I send 'phonebook' folder wich contains my laravel project for task 3.

2. Instructions for installation

1. Laravel 5.1 required 5.5.9 php version.
2. Download and install composer, link with that <https://getcomposer.org/> , with path on php.exe in local server directory for example 'C:\xampp\php\php.exe'.
3. Make 'laravel' folder in local server directory for example 'C:\xampp\htdocs\laravel' and move my 'phonebook' folder in them.
4. Run cmd in 'phonebook' folder with command **php artisan serve** and you get start location.
5. Create database 'phonebook' on root username without password.
6. Run cmd in project folder 'C:\xampp\htdocs\laravel\phonebook' with command **php artisan migrate**, wich will create appropriate table in database 'phonebook'.
7. For paginated results, you must added greater than 5 contacts.