

# Dsa-Lab-Task : 2

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**Dept: BS-CS**

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**Section : 3D**

## Qns1:

```
#include<iostream>

using namespace std;

class Repeated

{

private:

int s;

int *arr,value,prev_val=0,count=0;

public:

void rep_array()

{

cout << "Enter The size of array :" << endl;

cin >> s;

arr = new int[s];

for(int i=0;i<s;i++)

{
```

```
cin>>*(arr+i);
```

```
}
```

```
for(int i=0;i<s;i++)
```

```
{
```

```
cout <<*(arr+i)<<" ,";
```

```
}
```

```
for(int i=0;i<s;i++)
```

```
{
```

```
int prev_count=0;
```

```
for(int j=0;j<s;j++)
```

```
{
```

```
if(*(arr+i)==*(arr+j))
```

```
{
```

```
prev_count++;
```

```
}
```

```
}
```

```
if(count<=prev_count)
```

```
{  
    value=*(arr+i);  
  
    if(value>=prev_val){  
  
        prev_val=value;  
  
    }  
  
    count=prev_count;  
  
}  
  
}  
  
cout<<"\nThe Most Repeated Value is "<<prev_val<<" and it appears "<<count <<" Times  
"<<endl;
```

```
}  
  
~Repeated()  
{  
    delete[] arr;  
    arr=nullptr;  
}  
  
};
```

```
int main()
{
Repeated r;
r.rep_array();
}
```

## Qns 2:

```
#include<iostream>

using namespace std;

class dup_remove{

private:

int *aa,siz=0,uni_c;

public:

dup_remove(int s):siz(s),uni_c(0)

{

aa = new int[siz];

cout<<"Enter The Values :"<<endl;

for(int i=0;i<siz;i++)

{



cin>>*(aa+i);

}
```

```
for(int i=0;i<siz;i++)
```

```
{
```

```
cout<<*(aa+i)<<" ,";
```

```
}
```

```
cout<<endl;
```

```
for(int i=0;i<siz;i++)
```

```
{
```

```
for(int j=i+1;j<siz;j++)
```

```
{
```

```
if(*(aa+i)==*(aa+j))
```

```
{
```

```
*(aa+j)=-1;
```

```
}
```

```
}
```

```
}
```

```
for(int i=0;i<siz;i++)
```

```
{
```

```
if(*(aa+i)!=-1)
```

```
{
```

```
uni_c++;
```

```
}
```

```
}
```

```
cout<<endl;
```

```
}
```

```
void unique()
```

```
{
```

```
int *a=new int[uni_c];
```

```
int j=0;
```

```
for (int i=0;i<siz;i++)
```

```
{
```

```
if(*(aa+i)!=-1)
```

```
{
```

```
*(a+j)=*(aa+i);
```

```
j++;
```

```
}
```

```
}
```

```
for (int i=0;i<uni_c;i++)
```

```
{
```

```
cout <<*(a+i)<<",";
```

```
}
```

```
delete[] aa;
```

```
aa=a;
```

```
    }
```

```
~dup_remove()
```

```
{
```

```
delete[] aa;
```

```
aa=nullptr;
```

```
}
```

```
};
```

```
int main()
```

```
{
```

```
int size;
```

```
cout << "Enter The size of array :" << endl;
```

```
cin >> size;
```

```
dup_remove d(size);
```

```
d.unique();
```

```
}
```

## Qns 3:

```
#include<iostream>

using namespace std;

class matrix_diag

{

private:

int siz=3,**a=new int*[siz],add_main_d=0,sec_diagonal=0;

public:

matrix_diag(){

for(int i=0;i<siz;i++)

{



*(a+i)=new int[siz];

}

}

void input_matrices(){

cout <<"Enter values in Matrix:"<<endl;

for(int i=0;i<siz;i++){

for(int j=0;j<siz;j++){

cin>>*(*(a+i)+j);

}

}
```

```
}

for(int i=0;i<siz;i++){
    for(int j=0;j<siz;j++){
        {
            cout <<*(*(a+i)+j)<<"," ;
        }
    }
}

void sum_of_diagonals(){
    for(int i=0;i<siz;i++){
        {
            add_main_d+=*(*(a+i)+i);
        }
    }

    for(int i=0;i<siz;i++){
        {
            sec_diagonal+=*(*(a+i)+siz-(i+1));
        }
    }

    cout <<"\nThe Main diagonal sum is :"<<add_main_d<<" \nThe secondaeey diagonal sum
    is:"<<sec_diagonal<<endl;
}
```

```
~matrix_diag(){

for(int i=0;i<siz;i++)

{

delete[] *(a+i);

}

delete[] a;

}

};

int main()

{

matrix_diag m;

m.input_matrices();

m.sum_of_diagonals();

}
```