

Compte rendu numéro 1

Projet POO

Trinome 8

Projet 4

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Enfant.h

```
#include <iostream>
#include <string>

using namespace std;

struct date{
    int jour;
    int mois;
    int annee;
};

typedef struct date DATE;

class Enfant {
protected:
    int CodeEnfant;
    string Name;
    string Lastname;
    DATE Age;

public:
    Enfant();
    Enfant(const Enfant &);
    Enfant(int, string, string, DATE);
    virtual void Afficher();
    void SetCodeEnfant(int );
    void SetName(string);
    void SetLastname(string);
    void SetAge(DATE);
    int GetCodeEnfant();
    string GetName();
    string GetLastname();
    DATE GetAge();
    int GetDay();
    int GetMonth();
    int GetYear();
    virtual ~Enfant();
};
```

Enfant.cpp

```
#include "Enfant.h"

Enfant::Enfant() : CodeEnfant(0), Name("deflaut"), Lastname("deflaut"),
Age{0, 0, 0} {}

Enfant::Enfant(int c ,string n,string p,DATE d) :
CodeEnfant(c),Name(n),Lastname(p),Age(d) {}

Enfant::Enfant(const Enfant &){}

void Enfant::Afficher() {
    cout<<"Code Enfant est : "<<CodeEnfant<<endl;
    cout<<"Nom Enfant est : "<<Name<<endl;
    cout<<"Prenom Enfant est : "<<Lastname<<endl;
    cout<<"Age du l'Enfant est :
"<<Age.jour<<"/"<<Age.mois<<"/"<<Age.annee<<endl;

}

void Enfant::SetCodeEnfant(int c) {
    CodeEnfant = c;
}

void Enfant::SetName(string n) {
    Name = n;
}

void Enfant::SetLastname(string p) {
    Lastname= p;
}

void Enfant::SetAge(DATE d) {
    Age.jour = d.jour;
    Age.mois = d.mois;
    Age.annee = d.annee;
}

int Enfant::GetCodeEnfant() {
    return CodeEnfant;
}

string Enfant::GetName() {
    return Name;
}
```

```
string Enfant::GetLastname() {  
    return Lastname;  
}  
DATE Enfant::GetAge() {  
    return Age;  
}  
int Enfant::GetDay() {  
    return Age.jour;  
}  
int Enfant::GetMonth() {  
    return Age.mois;  
}  
int Enfant::GetYear() {  
    return Age.annee;  
}  
Enfant::~~Enfant() {}
```

EnfantHandicapee.h

```
#include "Enfant.cpp"
```

```
class EnfantHandicape : public Enfant{
    private:
        int TypeMaladie;
    public:
        EnfantHandicape() ;
        EnfantHandicape(Enfant,int) ;
        EnfantHandicape(int,string,string,DATE,int) ;
        void Afficher() ;
        void SetTypeMaladie(int) ;
        int GetTypeMaladie() ;
        ~EnfantHandicape() ;
};
```

EnfantHandicapee.cpp

```
#include "EnfantHandicape.h"
```

```
EnfantHandicape::EnfantHandicape() :
    Enfant(0, "", "", {0, 0, 0}), TypeMaladie(0) {}
EnfantHandicape::EnfantHandicape(Enfant e, int m) :
    Enfant(e), TypeMaladie(m) {}
EnfantHandicape::EnfantHandicape(int c, string n, string l, DATE d, int t){
    CodeEnfant = c;
    Name = n;
    Lastname = l;
    Age.jour = d.jour;
    Age.mois = d.mois;
    Age.annee = d.annee;
    TypeMaladie = t;
}

void EnfantHandicape::Afficher(){
    cout<<"Code Enfant est : "<<CodeEnfant<<endl;
    cout<<"Nom Enfant est : "<<Name<<endl;
    cout<<"Prenom Enfant est : "<<Lastname<<endl;
    cout<<"Age du l'Enfant est :
"<<Age.jour<<"/"<<Age.mois<<"/"<<Age.annee<<endl;
    cout<<"Le type maladie de l'Enfant est : "<<TypeMaladie<<endl;
}
int EnfantHandicape::GetTypeMaladie(){
    return TypeMaladie;
}
void EnfantHandicape::SetTypeMaladie(int t){
    TypeMaladie = t;
}

EnfantHandicape::~EnfantHandicape(){
}
```

Main.cpp

```
#include "EnfantHandicape.cpp"
#include <vector>
#include <iomanip>
#include <chrono>

bool YesOrNo(string test){
    if (test == "yes" || test == "no") return true;
    else return false;
}

int calculateAge(int Day, int Month, int Year) {
    time_t currentTime = time(nullptr);
    tm* localTime = localtime(&currentTime);
    int currentDay = localTime->tm_mday;
    int currentMonth = localTime->tm_mon + 1;
    int currentYear = 1900 + localTime->tm_year;
    int age = currentYear - Year;
    if (currentMonth < Month || (currentMonth == Month && currentDay <
Day)) age--;

    return age;
}

void compare(int a ,int b){
    if (a<b) cout<<"1<2"<<endl;
    else cout<<"2<1"<<endl;
}

int main(){

    vector<Enfant*> Ecole;
    string choice;
    int NbEnfant ;
```

```

cout<<"How many children you want to enter : ";
cin>>NbEnfant;

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

    string WithDisease;
    cout<<"*****Does the child has a disease (Answer with 'yes' or
'no') ";
    do{
        cout<<"Please type in a correct answer : ";
        cin>>WithDisease;

    }while(YesOrNo(WithDisease) == false);

    if (WithDisease == "yes"){
        int Code,Day,Month,Year,Type;
        string Name,Lastname;
        cout<<"Type the Name of the child : ";
        cin>>Name;
        cout<<"Type the Lastname of the child : ";
        cin>>Lastname;
        cout<<"Type the date of birth of the child : "<<endl;;
        cout<<"Day : ";
        cin>>Day;
        cout<<"Month : ";
        cin>>Month;
        cout<<"Year : ";
        cin>>Year;
        cout<<"Choose the diseaso of the child (1 = 'test' , 2 =
'test' , 3 = 'test') : ";
        cin>>Type;
        EnfantHandicape* e = new
EnfantHandicape(i+1,Name,Lastname,{Day,Month,Year},Type);
        Ecole.push_back(e);
    }
    else if (WithDisease == "no"){
        int Code,Day,Month,Year;
        string Name,Lastname;
        cout<<"Type the Name of the child : ";
        cin>>Name;

```



```

        cout<<"Type the Lastname of the child : ";
        cin>>Lastname;
        cout<<"Type the date of birth of the child : "<<endl;;
        cout<<"Day : ";
        cin>>Day;
        cout<<"Month : ";
        cin>>Month;
        cout<<"Year : ";
        cin>>Year;
        Enfant* e = new Enfant(i+1,Name,Lastname,{Day,Month,Year});
        Ecole.push_back(e);
    }
    cout<<"***" <<endl;
}

string More;
cout<<"Do you want to add more children : (Answer with 'yes' or 'no')
: ";
cin>>More;
while(YesOrNo(More)){
    if (More == "yes"){

        string WithDisease;
        cout<<"*****Does the child has a disease (Answer with 'yes' or
'no') ";
        do{
            cout<<"Please type in a correct answer : ";
            cin>>WithDisease;

        }while(YesOrNo(WithDisease) == false);

        if (WithDisease == "yes"){
            int Code,Day,Month,Year,Type;
            string Name,Lastname;
            cout<<"Type the Name of the child : ";
            cin>>Name;
            cout<<"Type the Lastname of the child : ";
            cin>>Lastname;
            cout<<"Type the date of birth of the child : "<<endl;;
            cout<<"Day : ";

```

```

        cin>>Day;
        cout<<"Month : ";
        cin>>Month;
        cout<<"Year : ";
        cin>>Year;
        cout<<"Choose the disease of the child (1 = 'test' , 2 =
'test' , 3 = 'test') : ";
        cin>>Type;
        EnfantHandicape* e = new
EnfantHandicape(Ecole.size(),Name,Lastname,{Day,Month,Year},Type);
        Ecole.push_back(e);
    }
    else if (WithDisease == "no"){
        int Code,Day,Month,Year;
        string Name,Lastname;
        cout<<"Type the Name of the child : ";
        cin>>Name;
        cout<<"Type the Lastname of the child : ";
        cin>>Lastname;
        cout<<"Type the date of birth of the child : "<<endl;
        cout<<"Day : ";
        cin>>Day;
        cout<<"Month : ";
        cin>>Month;
        cout<<"Year : ";
        cin>>Year;
        Enfant* e = new
Enfant(Ecole.size(),Name,Lastname,{Day,Month,Year});
        Ecole.push_back(e);
    }
    cout<<"***"_____*"*"<<endl;
    cout<<"Do you want to add more children : (Answer with 'yes' or
'no') : ";
    cin>>More;
}
else break;
}
cout<<endl<<"*****Affichage*****"<<endl;
int sumE = 0,sumEh = 0,max = 0;

```

```

for (int i = 0;i<Ecole.size();i++){
    if (typeid(*Ecole[i]) == typeid(Enfant*)) sumE +=1;
    else sumEh +=1;
    Ecole[i]->Afficher();
    cout<<"*****"<<endl;
}
cout<<"There is "<<sumE<<" normal children and "<<sumEh<<" children
with disease"<<endl;

int Day = Ecole[0]->GetDay();
int Month = Ecole[0]->GetMonth();
int Year = Ecole[0]->GetYear();
int Max = calculateAge(Day,Month,Year);
int Min = calculateAge(Day,Month,Year);
int IndMax = 0;
int IndMin = 0;

for (int i = 0;i<Ecole.size()-1;i++){
    int Day1 = Ecole[i]->GetDay();
    int Month1 = Ecole[i]->GetMonth();
    int Year1 = Ecole[i]->GetYear();
    if (calculateAge(Day1,Month1,Year1) > Max) {
        Max = calculateAge(Day1,Month1,Year1);
        IndMax = i;
    }
    if (calculateAge(Day1,Month1,Year1) < Min) {
        Min = calculateAge(Day1,Month1,Year1);
        IndMin = i;
    }
}

cout<<"The oldest child is the one with the code : "<<IndMax<<endl;
cout<<"The youngest child is the one with the code : "<<IndMin<<endl;

system("PAUSE");
return 1;
}

```

Execution :

```
How many children you want to enter : 2
*****Does the child has a disease (Answer with 'yes' or 'no') Please type in a correct answer : t
Please type in a correct answer : t
Please type in a correct answer : yes
Type the Name of the child : mhamdi
Type the Lastname of the child : becem
Type the date of birth of the child :
Day : 16
Month : 01
Year : 2003
Choose the diseaso of the child (1 = 'test' , 2 = 'test' , 3 = 'test') : 1
```

```
***
*****Does the child has a disease (Answer with 'yes' or 'no') Please type in a correct answer : no
Type the Name of the child : selmi
Type the Lastname of the child : wael
Type the date of birth of the child :
Day : 1
Month : 1
Year : 2002
...
Do you want to add more children : (Answer with 'yes' or 'no') : yes
*****Does the child has a disease (Answer with 'yes' or 'no') Please type in a correct answer : no
Type the Name of the child : Ncir
Type the Lastname of the child : alaeddine
Type the date of birth of the child :
Day : 2
Month : 2
Year : 2003
***
```

Do you want to add more children : (Answer with 'yes' or 'no') : no

*****Affichage*****

```
Code Enfant est : 1
Nom Enfant est : mhamdi
Prenom Enfant est : becem
Age du l'Enfant est : 16/1/2003
Le type maladie de l'Enfant est : 1
*****
Code Enfant est : 2
Nom Enfant est : selmi
Prenom Enfant est : wael
Age du l'Enfant est : 1/1/2002
```

Code Enfant est : 2

Nom Enfant est : Ncir

Prenom Enfant est : alaeddine

Age du 1'Enfant est : 2/2/2003

The oldest child is the one with the code : 1

The youngest child is the one with the code : 0

Press any key to continue . . .

There is 2 normal children and 1 children with disease