

TEST AND ASSIGNMENT

STATIC

```
#include <iostream>
```

```
using namespace std;
```

```
class Sudo
```

```
{
```

```
    public:
```

```
        int a;
```

```
        static int b;
```

```
        void increment()
```

```
        {
```

```
            a=a+10;
```

```
            b=b+10;
```

```
        cout<<a<<b<<endl;
```

```
}  
};
```

```
int Sudo ::b=0;
```

```
int main()
```

```
{
```

```
    Sudo s1,s2;
```

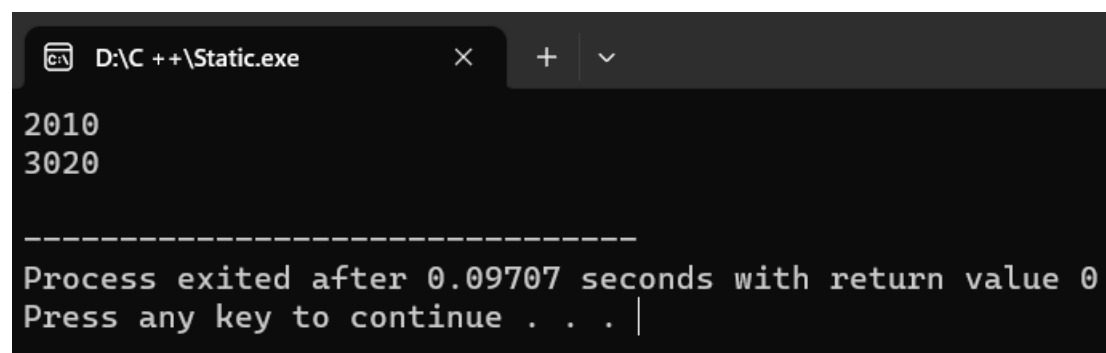
```
    s1.a=10;
```

```
    s2.a=20;
```

```
    s1.increment();
```

```
    s2.increment();
```

```
}
```



The screenshot shows a Windows command prompt window titled "D:\C ++\Static.exe". The output of the program is displayed as follows:

```
2010  
3020  
  
-----  
Process exited after 0.09707 seconds with return value 0  
Press any key to continue . . . |
```

TWO DIMENTION

```
#include <iostream>
```

```
using namespace std;
```

```
int main()
```

```
{
```

```
    int row=3;
```

```
    int column=4;
```

```
    int i,j;
```

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

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

```
    {
```

```
        a[i]=new int[column];
```

```
    }
```

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

```
    {
```

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

```
        {
```

```
        cin>>a[i][j];
    }
}

for(int i=0;i<row;i++)
{
    for(int j=0;j<column;j++)
    {
        cout<<a[i][j]<<" ";
    }
    cout<<endl;
}

return 0;
}
```

```
D:\C ++\DMA 2D.exe
3
6
5
9
8
7
1
2
6
5
4
9
3 6 5 9
8 7 1 2
6 5 4 9

-----
Process exited after 13.68 seconds with return value 0
Press any key to continue . . . |
```

USER DEFINED

```
#include <iostream>
```

```
#include <stdexcept>
```

```
using namespace std;
```

```
class CustomException : public std::exception {
public:
```

```
    CustomException(const char* message) :
    errorMessage(message) {}
```

```
const char* what() const noexcept override {  
    return errorMessage.c_str();  
}
```

private:

```
    string errorMessage;  
};
```

```
int main() {
```

```
    int age;
```

```
    try {
```

```
        cout << "Enter your age: ";
```

```
        cin >> age;
```

```
        if (age < 0) {
```

```
            throw CustomException("Age cannot be negative.");
```

```
        } else if (age < 18) {
```

```
            throw CustomException("You must be at least 18  
years old.");
```

```
        } else {
```

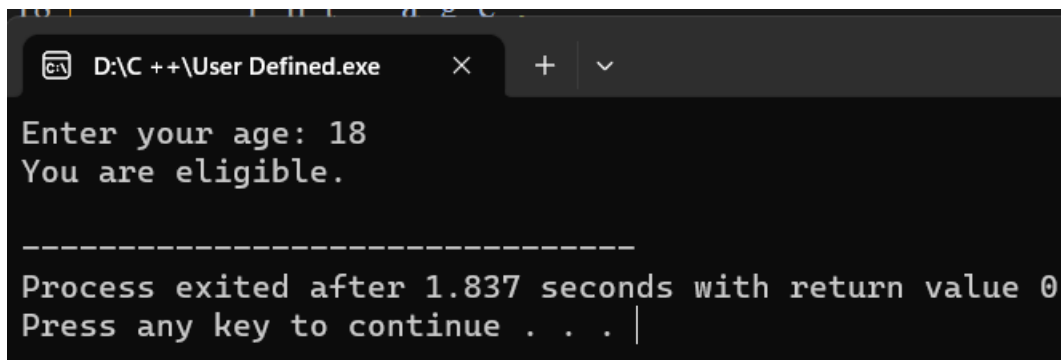
```
            cout<<"You are eligible."<<endl;
```

```

    }
} catch (CustomException& e) {
    cerr<<"Custom Exception:"<<e.what()<<endl;
} catch (std::exception& e) {
    cerr<<"Standard Exception: "<<e.what()<<endl;
}

return 0;
}

```



```

D:\C ++\User Defined.exe
Enter your age: 18
You are eligible.
-----
Process exited after 1.837 seconds with return value 0
Press any key to continue . . . |

```

VIRTUAL EXCEPTION

```
#include <iostream>
```

```
using namespace std;
```

```
class Sudo
```

```
{  
    public:  
  
    void dis()  
    {  
        cout<<"Hey There!";  
    }  
};  
  
class Agent:virtual public Sudo  
{  
    public:  
  
};  
  
class SudoAgent:virtual public Sudo  
{  
    public:  
  
};  
  
class SA:public Agent,public SudoAgent  
{  
    public:
```



```
};
```

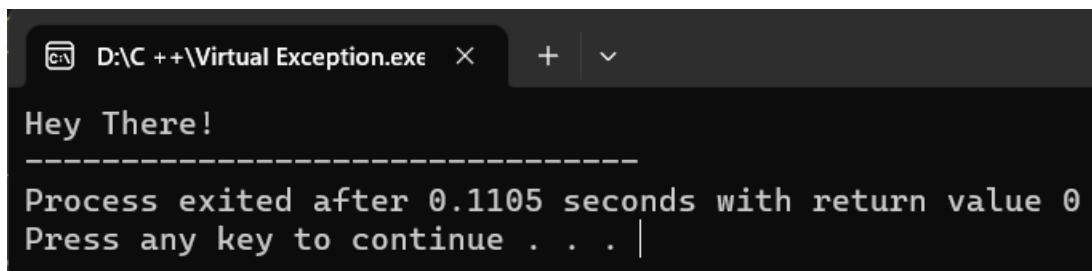
```
int main()
```

```
{
```

```
    SA s;
```

```
    s.dis();
```

```
}
```



The screenshot shows a Windows command prompt window with a single tab titled "D:\C ++\Virtual Exception.exe". The window has a dark background and white text. The output of the program is as follows:

```
Hey There!  
-----  
Process exited after 0.1105 seconds with return value 0  
Press any key to continue . . . |
```