**Gr no 21810819**

**Assignment no:5**

**Problem Statement:** Create User defined exception to check the following conditions and throw the exception if the criterion does not meet.

a. User stays in Pune / Mumbai / Bangalore / Chennai

b. User has 4-wheeler.

City, Vehicle from the user and check for the conditions mentioned above. If any of the condition not met then throw the exception. If user does not enter proper input throw the exception.

**Aim of Assignment:** To implement user define exception in above problem statement.

**Description:**

**Exception Handling:**

• An exception is a problem that arises during the execution of a

program. A C++ exception is a response to an exceptional

circumstance that arises while a program is running, such as an

attempt to divide by zero.

Exceptions provide a way to transfer control from one part of a

program to another. C++ exception handling is built upon three

keywords: **try, catch,** and **throw**.

• **throw** − A program throws an exception when a problem shows up.

This is done using a **throw** keyword.

• **catch** − A program catches an exception with an exception handler at the place in a program where you want to handle the problem.

The **catch** keyword indicates the catching of an exception.

• **try** − A **try** block identifies a block of code for which particular exceptions will be activated. It's followed by one or more catch blocks.

• Assuming a block will raise an exception, a method catches an exception using a combination of the **try** and **catch** keywords. A try/catch block is placed around the code that might generate an exception. Code within a try/catch block is referred to as protected code.

**Code :**

#include<iostream>

#include<string>

using namespace std;

class excep

{

public:

char vehicle;

string city;

excep() //constructor

{

vehicle=0;

}

void getdata(); //function defining

};

void excep::getdata() //function defination

{

cout<<"Enter Your City name ";

cin>>city;

if(city=="pune" || city=="mumbai" || city=="bangalore" || city=="chennai" ||

city=="Pune" || city=="Mumbai" || city=="Bangalore" || city=="Chennai" ||

city=="PUNE" || city=="MUMBAI" || city=="BANGALORE" || city=="CHENNAI")

{

cout<<"Valid city"<<endl;

}

else

{

throw 1; // throwing exception for invalid city

}

cout<<"Do you have four wheeler(y/n) ";

cin>>vehicle;

if(vehicle=='n' ||vehicle=='N')

{

throw 2; // throwing exception for 2 wheeler

}

}

int main()

{

excep e;

try //try block for exception checking

{

e.getdata(); // function call

}

catch(int i) // catch block to caught exception

{

switch(i)

{

case 1:

cout<<"\nException! Invalid city"<<endl;

break;

case 2:

cout<<"\nException! User Do'nt have four vehicle"<<endl;

break;

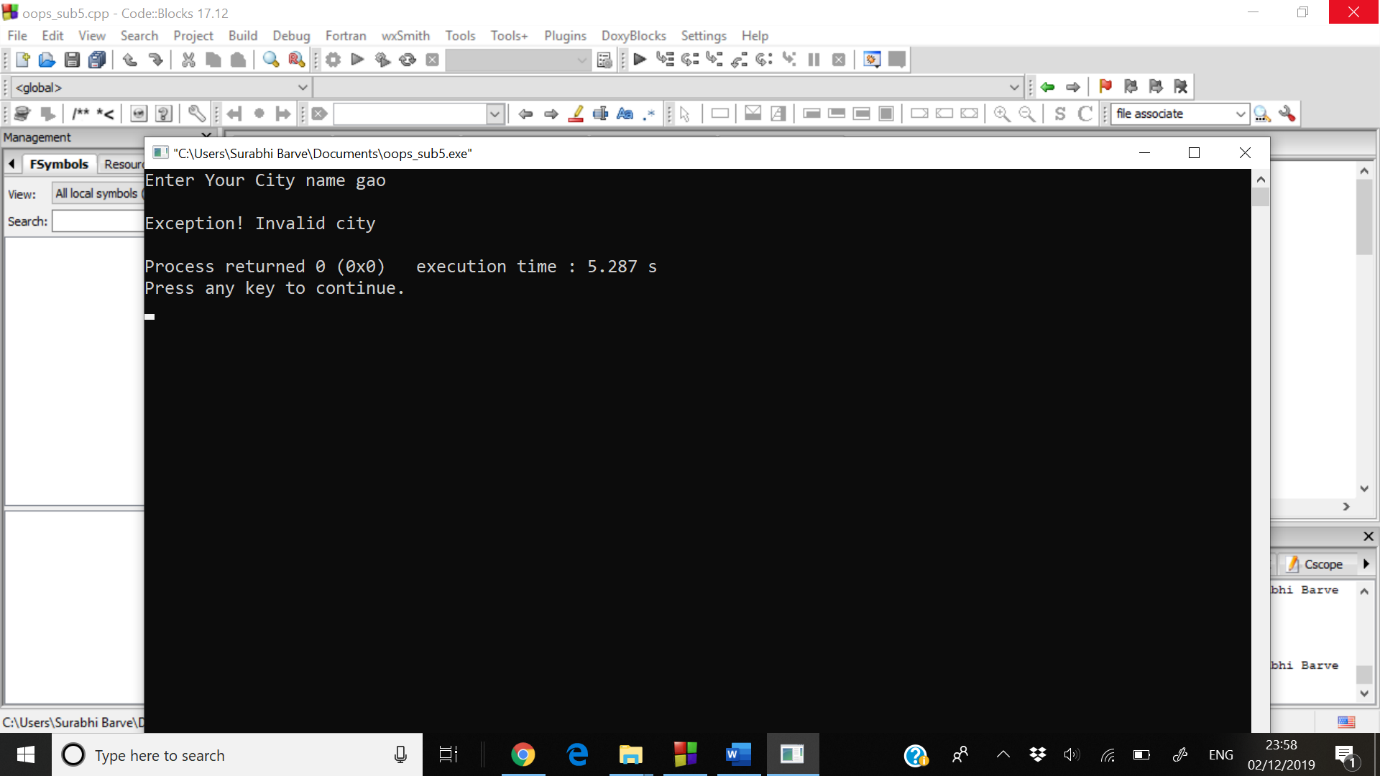
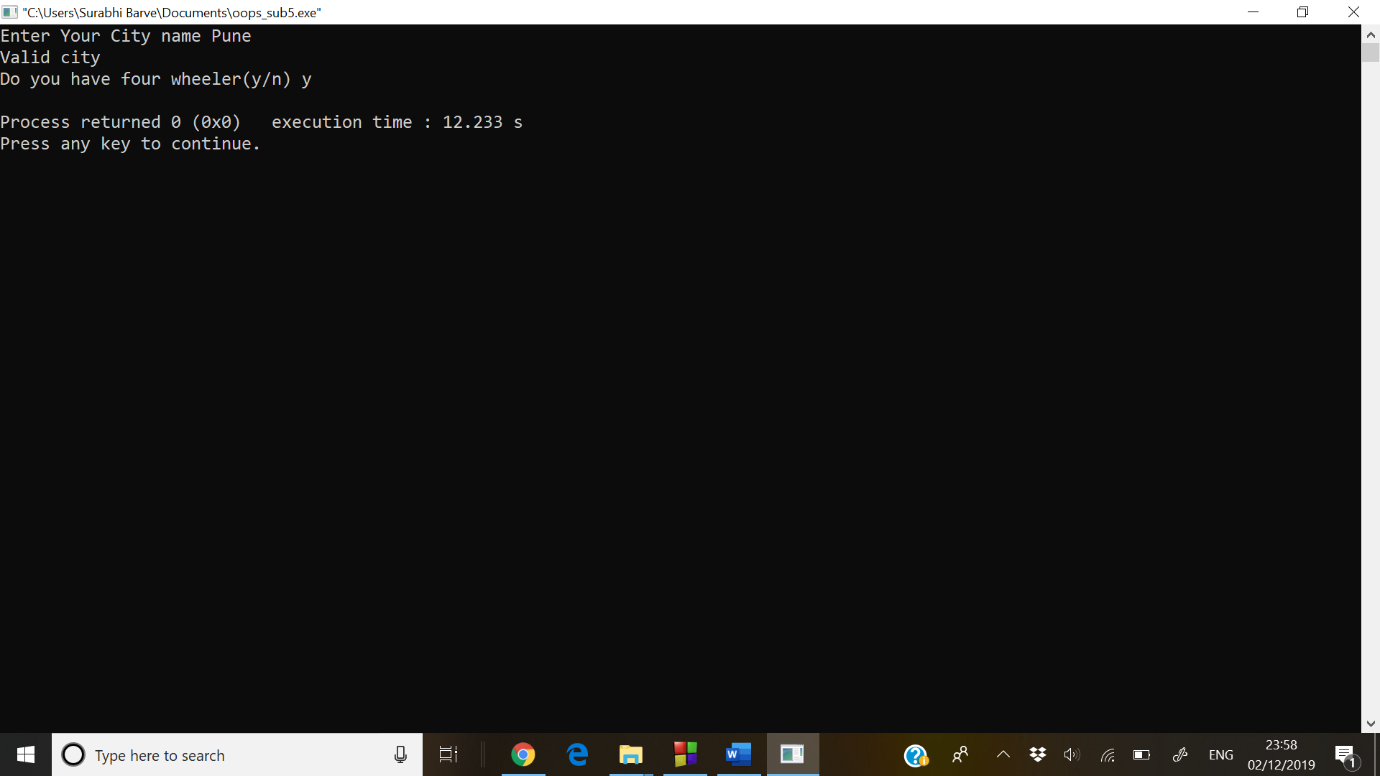
}

}

return 0;

}

Conclusion**:** Thus, we successfully implement user define exception.

**Screenshots:**