Assignment 5

**Aim –**

Create user defined exception to check the following condition and throw an exception if the criterion does not meet.

a]User stays in Pune / Mumbai/ Banglore/ Chennai

b]User has four wheeler

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

**Objective -**

Exception handling is a mechanism used to handle the exceptions as per our need at run time. The main purpose is to prevent abnormal termination of the program and to customise the exception message.

**Theory -**

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.

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.

**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.

**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.

**throw −** A program throws an exception when a problem shows up. This is done using a throw keyword.

**Syntax:**

try

{

//code

throw parameter;

}

catch(exceptionname ex)

{

//code to handle exception

}

**Source Code-**

#include<iostream>

#include<string.h>

using namespace std;

int main()

{

p:int i=0;

char ch;

string a;

try

{

cout<<"Enter city name (Enter name in capitals) : ";

cin>>a;

if(a=="PUNE"||a=="MUMBAI"||a=="BANGALORE"||a=="CHENNAI"||a=="pune"||a=="angalore"||a=="chennai"||a=="mumbai")

{

cout<<"\nDo you have 4-wheeler?\n~press Y if yes\n~press N if no\n";

cin>>ch;

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

{

i=1;

throw i;

}

cout<<"\nCONGRATULATIONS! There is parking available for you.";

}

else

{

throw i;

}

}

catch(int x)

{

if(x==0)

cout<<"\nERROR! Parking is not available in this city. Enter correct city.";

if(x==1)

cout<<"\n SORRY.currently parking is available only for 4-wheelers.";

char ch1;

cout<<"\nDo you want to continue? (~press Y/N) : ";

cin>>ch1;

cout<<"\n\n";

if(ch1=='y'||ch1=='Y')

goto p;

}

return 0;

}

**Output-**

/\*

Enter city name (Enter name in capitals) : PUNE

Do you have 4-wheeler?

~press Y if yes

~press N if no

Y

CONGRATULATIONS! There is parking available for you.

--------------------------------

Process exited after 15.37 seconds with return value 0

Press any key to continue . . .

Enter city name (Enter name in capitals) : MUMBAI

Do you have 4-wheeler?

~press Y if yes

~press N if no

N

SORRY.currently parking is available only for 4-wheelers.

Do you want to continue? (~press Y/N) : N

--------------------------------

Process exited after 19.55 seconds with return value 0

Press any key to continue . . .

\*/

**Conclusion-**

Exceptions are thrown to indicate that a problem has occurred in a program.The module concluded by taking a look at the finally clause, which provides a means of guaranteeing the execution of a section of code regardless of whether an exception is thrown.