National University of Computer and Emerging Sciences



Lab 15

Object Oriented Programming

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| Name | Muhammad Zain |
| Roll No. | 19F-0228 |
| LAB INSTRUCTOR | Mr. Mughees Ismail |
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Task 1

# **Source Code:**

#include <iostream>

#include<iomanip>

#include<string>

#include<string.h>

using namespace std;

class Calculator

{

public:

Calculator() { }

double Addition(double num1, double num2)

{

return num1 + num2;

}

double Subtraction(double num1, double num2)

{

return num1 - num2;

}

double Multiplication(double num1, double num2)

{

return num1 \* num2;

}

double Division(double num1, double num2)

{

return num1 / num2;

}

};

int main()

{

int choice;

string input1;

string input2;

Calculator obj\_C;

try {

cout << "Enter 1st number : "; cin >> input1;

for (int j = 0; j < input1.size(); j++) {

if (!isdigit(input1[j])) {

throw input1;

}

}

}

catch (string exception)

{

cout << "Invalid input :-(" << endl;

cout << "Enter 1st Number : ";

while (true) {

start1:

cin >> input1;

for (int j = 0; j < input1.size(); j++) {

if (!isdigit(input1[j])) {

cout << "Invalid input :-( " << endl;

cout << "Please input correct Number" << endl;

goto start1;

}

}

break;

}

}

try

{

cout << "Enter 2nd Number : "; cin >> input2;

for (int j = 0; j <input2.size(); j++) {

if (!isdigit(input2[j])) {

throw input2;

}

}

}

catch (string x) {

cout << "Invalid input :-(" << endl;

cout << "Enter 2nd Number : ";

while (true) {

start2:

cin >> input2;

for (int j = 0; j < input2.size(); j++) {

if (!isdigit(input2[j])) {

cout << "Invalid input :-(" << endl;

cout << "Please input correct number" << endl;

goto start2;

}

}

break;

}

}

double Num1 = stod(input1);

double Num2 = stod(input2);

cout << "Addition (" << Num1 << " + " << Num2 << ") = " << obj\_C.Addition(Num1, Num2) << endl;

cout << "Subtraction (" << Num1 << " - " << Num2 << ") = " << obj\_C.Subtraction(Num1, Num2) << endl;

cout << "Multiplication (" << Num1 << " \* " << Num2 << ") = " << obj\_C.Multiplication(Num1, Num2) << endl;

cout << "Division (" << Num1 << " / " << Num2 << ") = " << obj\_C.Division(Num1, Num2) << endl;

system("pause>0");

}

# **Snip:**

A screen shot of a computer

Description automatically generated

Task 2

# **Source Code:**

#include <iostream>

#include<exception>

using namespace std;

class Base1

{

public:

~Base1()

{

cout << "Distructor of Base class 1" << endl;

}

};

class Base2

{

public:

~Base2()

{

cout << "Distructor of Base class 2 " << endl;

}

};A

int main()

{

try

{

Base1 obj1;

Base2 obj2;

throw 90.909;

}

catch (double exp)

{

cout << "NOt Allowed :-(" << endl;

cout << "Exception thrown is "<<exp << endl;

}

system("pause>0");

}

# **Snip:**

A screen shot of a computer

Description automatically generated

Task 3

# **Source Code:**

#include <iostream>

void BaseFunction(double);

void Derrived1 (double);

void Derrived2 (double);

int main()

{

try

{

BaseFunction(50.79);

}

catch (double )

{

std::cout << "Exception is thrown form 2nd derrived Function \n";

}

system("pause>0");

}

void Derrived2(double arg)

{

if (arg == 70.99)

{

throw arg;

}

}

void Derrived1(double arg)

{

Derrived2(70.99);

}

void BaseFunction(double arg)

{

Derrived1(16.55);

}

# **Snip:**

