



KALINGA INSTITUTE OF INDUSTRIAL TECHNOLOGY (KIIT)

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LAB 12

- Name : HITU RAJ
- Roll no. : 2005025
- Branch : CSE

2005025_Hitu raj

```
//1.WAP to throw and handle 'division by zero' exception.
#include<iostream>
using namespace std;

int main()
{ int num_025 ,deno_025;
  cout<<"enter num_025 and deno_025";

  cin>>num_025>>deno_025;

  try
  {
    if(deno_025==0)
    {
      throw 0;
    }
  }
  catch(int)
```

```

{
    cout<<"denominator cant be zero\n";
}
cout<<"prog ends";

return 0;
}

```

OUTPUT-1



```

PROBLEMS 7 OUTPUT DEBUG CONSOLE TERMINAL
Windows PowerShell
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PS D:\my codes\OOPS\lab12_exception_handling> cd "d:\my codes\OOPS\lab12_exception_handling\" ; if ($?) { g++ q1_divisonbyzero.cpp -o q1_divisonbyzero } ; if ($?) { .\q1_divisonbyzero }
enter num_025 and deno_02512
0
denominator cant be zero
prog ends
PS D:\my codes\OOPS\lab12_exception_handling>

```

//2.WAP to throw and handle' array out of bound' exception.

```

#include<iostream>
using namespace std;

int main()
{ int arr_025[5],n;
cout<<"enter 5 elements in array " ;
for (int i = 0; i < 5; i++)
{
    cin>>arr_025[i];
}

cout<<"enter the inx no. u want to access";
cin>>n;

try
{
    if(n>4 || n<0)
    {
        throw 0;
    }
}
}

```

```

catch(int)
{
    cout<<"\nwrong index\n";
}
cout<<"prog ends";

return 0;
}

```

OUTPUT-2



```

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PS D:\my codes\00PS\lab12_exception_handling> cd "d:\my codes\00PS\lab12_exception_handling\" ; if ($?) { g++ q2_array_ot_bo
und.cpp -o q2_array_ot_bound } ; if ($?) { .\q2_array_ot_bound }
enter 5 elements in array 3 2 1 4 2
enter the inex no. u want to access9

wrong index
prog ends
PS D:\my codes\00PS\lab12_exception_handling>

```

```

//3.WAP to demonstrate multiple catch .
#include <iostream>
using namespace std;

int main()
{

    int num_025;

    cout<< "\n Enter a positive number : ";

    cin >> num_025;

    try

    {

        if (num_025 == 0)

```

```

        throw(char *)"Zero"; // Exception 1

    else if (num_025 == -1)

        throw num_025; // Exception 2

    else if (num_025 == 1)

        cout <<"\n NUMBER = " << num_025;

    else

        throw(float) num_025;
}

catch (int num_025)

{

    cout <<" \n" << num_025 << " is negative";
}

catch (char *msg)

{

    cout <<"\n The number is " << msg;
}

cout << " Exiting main()";
return 0;
}

```

OUTPUT-3

Windows PowerShell

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```
PS D:\my codes\OOPS\lab12_exception_handling> cd "d:\my codes\OOPS\lab12_exception_handling\" ; if ($?) { g++ q3_multiple-ca
tch.cpp -o q3_multiple-catch } ; if ($?) { .\q3_multiple-catch }
```

Enter a positive number : 1

NUMBER = 1 Exiting main()

```
PS D:\my codes\OOPS\lab12_exception_handling> cd "d:\my codes\OOPS\lab12_exception_handling\" ; if ($?) { g++ q3_multiple-ca
tch.cpp -o q3_multiple-catch } ; if ($?) { .\q3_multiple-catch }
```

Enter a positive number : -1

-1 is negative Exiting main()

```
PS D:\my codes\OOPS\lab12_exception_handling> cd "d:\my codes\OOPS\lab12_exception_handling\" ; if ($?) { g++ q3_multiple-ca
tch.cpp -o q3_multiple-catch } ; if ($?) { .\q3_multiple-catch }
```

Enter a positive number : 2

terminate called after throwing an instance of 'float'

PS D:\my codes\OOPS\lab12_exception_handling> █

//4.WAP to demonstrate multiple catch and catch all.

#include <iostream>

using namespace std;

int main()

{

int num_025;

cout<< "\n Enter a positive number : ";

cin >> num_025;

try

{

if (num_025 == 0)

throw(char *)"Zero"; // Exception 1

else if (num_025 == -1)

throw num_025; // Exception 2

else if (num_025 == 1)

cout << "\n NUMBER = " << num_025;

else

```

        throw(float) num_025;
    }

    catch (int num_025)
    {
        cout << " \n" << num_025 << " is negative";
    }

    catch (char *msg)
    {
        cout << "\n The number is " << msg;
    }

    catch (...) // caught exception 3
    {
        cout << "\n catch all code executed ";
    }

    cout << " Exiting main()";
    return 0;
}

```

OUTPUT-4



```

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PS D:\my codes\OOPS\lab12_exception_handling> cd "d:\my codes\OOPS\lab12_exception_handling\" ; if ($?) { g++ q4_catchall.cp
p -o q4_catchall } ; if ($?) { .\q4_catchall }

Enter a positive number : 1

NUMBER = 1 Exiting main()
PS D:\my codes\OOPS\lab12_exception_handling> cd "d:\my codes\OOPS\lab12_exception_handling\" ; if ($?) { g++ q4_catchall.cp
p -o q4_catchall } ; if ($?) { .\q4_catchall }

Enter a positive number : 3

catch all code executed Exiting main()
PS D:\my codes\OOPS\lab12_exception_handling>

```

//5.WAP that dynamically allocates memory for n no.objects for
//student class ,throw exception if memory is not allocated.

```

#include<iostream>
#include<stdlib.h>
using namespace std;

int main()
{ int *a_025,n;

a_025=new int[5];


try
{
    if(a_025==NULL)
    {
        throw 0;
    }
    else
    cout<<"memory allocated\n";
}
catch(int)
{
    cout<<"\nmemory not allocated\n";
}
cout<<"prog ends";


    return 0;
}

```

OUTPUT-5



```

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PS D:\my codes\OOPS\lab12_exception_handling> cd "d:\my codes\OOPS\lab12_exception_handling\" ; if ($?) { g++ q5_memoryallac
.cpp -o q5_memoryallac } ; if ($?) { .\q5_memoryallac }
memory allocated
prog ends
PS D:\my codes\OOPS\lab12_exception_handling> █

```

//6)WAP that calculates the square root of a number. Throw an exception if a negative number is taken

```

#include <iostream>
#include <math.h>
using namespace std;

int main()
{
    int num_025;
    cout << "enter the number to fing sqr root";

    cin >> num_025;

    try
    {
        if (num_025 >= 0)
        {

            cout << "sqroot of the number is ";
            float sqroot;
            sqroot = pow((float)num_025, 1.0 / 2.0);
            cout<<sqroot;
        }
        else
        {
            throw num_025;
        }
    }
    catch (int)
    {
        cout << "number cannot be negetive\n";
    }
    cout << "\nprog ends";

    return 0;
}

```

OUTPUT-6

```

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PS D:\my codes\00PS\lab12_exception_handling> cd "d:\my codes\00PS\lab12_exception_handling\" ; if ($?) { g++ q6srroot_neget
ive_no.cpp -o q6srroot_negative_no } ; if ($?) { .\q6srroot_negative_no }
enter the number to fing sqr root3
sqroot of the number is 1.73205
prog ends
PS D:\my codes\00PS\lab12_exception_handling> cd "d:\my codes\00PS\lab12_exception_handling\" ; if ($?) { g++ q6srroot_neget
ive_no.cpp -o q6srroot_negative_no } ; if ($?) { .\q6srroot_negative_no }
enter the number to fing sqr root-5
number cannot be negetive

prog ends
PS D:\my codes\00PS\lab12_exception_handling> █

```


//7) WAP to check the expiry date of a medicine. If the expiry date<current date, then

//throw an exception.

```
#include <iostream>
```

```
#include <math.h>
```

```
using namespace std;
```

```
struct datee
```

```
{
```

```
    int month_025,day_025,year_025;
```

```
}e,c;
```

```
int main()
```

```
{
```

```
    int num;
```

```
    cout << "enter the expiry date and current date in dd/mm/yy format\n";
```

```
    cin>>e.day_025>>e.month_025>>e.year_025;
```

```
    cin>>c.day_025>>c.month_025>>c.year_025;
```

```
    try
```

```
    {
```

```
        if (c.year_025>e.year_025)
```

```
        {
```

```
            throw 0;
```

```
        }
```

```
        else if(c.year_025==e.year_025&& c.month_025>e.month_025)
```

```
        {
```

```
            throw 0;
```

```
        }
```

```
        else
```

```
if(c.year_025==e.year_025&& c.month_025==e.month_025&& c.day_025>e.day_025)
```

```
    {
```

```
        throw 0;
```

```
    }
```

```
    else
```

```
    {
```

```
        cout << "your medicine is not expired yet \n";
```

```
    }
```

```
    }
```

```
    catch (int)
```

```
    {
```

```
        cout << "the medicine is expired\n";
```

```
    }
```

3

OUTPUT-7

```
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PS D:\my codes\OOPS\lab12_exception_handling> cd "d:\my codes\OOPS\lab12_exception_handling\" ; if ($?) { g++ q8_email_check
.cpp -o q8_email_check } ; if ($?) { .\q8_email_check }
enter your email address rajhиту10@gmail.com

valid email
PS D:\my codes\OOPS\lab12_exception_handling> cd "d:\my codes\OOPS\lab12_exception_handling\" ; if ($?) { g++ q8_email_check
.cpp -o q8_email_check } ; if ($?) { .\q8_email_check }
enter your email address dsmd@hsabs

there is no .com in email address
PS D:\my codes\OOPS\lab12_exception_handling> cd "d:\my codes\OOPS\lab12_exception_handling\" ; if ($?) { g++ q8_email_check
.cpp -o q8_email_check } ; if ($?) { .\q8_email_check }
enter your email address abaa.com

there is no @ in email address
PS D:\my codes\OOPS\lab12_exception_handling> █
```

```
/*8) WAP to take email address as input raise an exception if the email address violates
```

any one of the following conditions

I. It should have '@' symbol in the email address

ii. The string must be terminated with .com*/

```
#include <iostream>
```

```
//#include<stdio.h>
```

```
using namespace std;
```

```
int main()
```

3

```
char a_025[50];
```

```
int i, c = 0, com = 0;
```

```
cout << "enter your email address ";
```

```
gets(a_025);
```

```
for (i = 0; a_025[i] != '\0'; i++)
```

```

{
    if (a_025[i] == '@')
    {
        c++;
    }
}

if (a_025[i - 1] == 'm' && a_025[i - 2] == 'o' && a_025[i - 3] == 'c' &&
a_025[i - 4] == '.')
{
    com++;
}

try
{
    if (c == 0)
    {
        throw 1.1;
    }
    if (com == 0)
    {
        throw 1;
    }
    if(com==1&&c==1)
    {
        cout<<"\nvalid email\n";
    }
}

catch (double)
{
    cout << "\nthere is no @ in email address \n";
}
catch (int)
{
    cout << "\nthere is no .com in email address \n";
}

return 0;
}

```

OUTPUT-8

Windows PowerShell

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```
PS D:\my codes\00PS\lab12_exception_handling> cd "d:\my codes\00PS\lab12_exception_handling\" ; if ($?) { g++ q7_expirydate.
cpp -o q7_expirydate } ; if ($?) { .\q7_expirydate }
enter the expiry date and current date in dd/mm/yy format
02 03 2021
05 03 2021
the medicine is expired
PS D:\my codes\00PS\lab12_exception_handling> cd "d:\my codes\00PS\lab12_exception_handling\" ; if ($?) { g++ q7_expirydate.
cpp -o q7_expirydate } ; if ($?) { .\q7_expirydate }
enter the expiry date and current date in dd/mm/yy format
3 3 2003
1 3 2003
your medicine is not expired yet
PS D:\my codes\00PS\lab12_exception_handling> █
```

2005025_Hitu raj