**Assignment – 30 A Job Ready Bootcamp in C++, DSA and IOT MySirG**

**Exception Handling**

1. Write a C++ program to demonstrate the use of try, catch block with the argument as an

integer and string using multiple catch blocks.

Sol – 1.

#include<iostream>

using namespace std;

int main()

{

int a,b,c;

cout<<"Enter two num : ";

cin>>a>>b;

try

{

if(b==0)

throw "Divide by Zero error";

if(a==1)

throw a;

if(b == 2)

throw exception();

c=a/b;

}

catch(const char\*msg)

{

cout<<msg<<endl;

}

catch(int x)

{

cout<<"Me hu shaktimaan "<<x<<endl;

}

catch(...)

{

cout<<"Rajnikant is here then no fear"<<endl;

}

cout<<"Result = "<<c;

return 0;

}

2. Write a C++ program to demonstrate try, throw and catch statements.

Sol – 2.

#include<iostream>

using namespace std;

int main()

{

int a,b,c;

cout<<"Enter two num : ";

cin>>a>>b;

try

{

if(b==0)

throw "Divide by Zero error";

if(a==1)

throw a;

if(b == 2)

throw exception();

c=a/b;

}

catch(const char\*msg)

{

cout<<msg<<endl;

}

catch(int x)

{

cout<<"Me hu shaktimaan "<<x<<endl;

}

catch(...)

{

cout<<"Rajnikant is here then no fear"<<endl;

}

cout<<"Result = "<<c;

return 0;

}

3. Write a C++ program to perform arithmetic operations on two numbers and throw an

exception if the dividend is zero or does not contain an operator.

Sol – 3.

#include<iostream>

using namespace std;

int main()

{

int a,b,c;

char op;

cout<<"Enter 1st number : ";

cin>>a;

cout<<"Enter operation : ";

try

{

cin>>op;

if(op!='+'&&op!='-'&&op!='\*'&&op!='/')

throw op;

cout<<"Enter 2nd number : ";

cin>>b;

switch(op)

{

case '+' :

c=a+b;

break;

case '-' :

c=a-b;

break;

case '\*' :

c=a\*b;

break;

case '/' :

if(b==0)

throw b;

c=a/b;

}

}

catch(char c)

{

cout<<"Invalid Operator : "<<c;

}

catch(int x)

{

cout<<"Divide by zero error";

}

cout<<"\nResult : "<<c<<endl;

return 0;

}

4. Write a C++ program to accept an email address and throw an exception if it does not

contain @ symbol.

Sol – 4.

#include<iostream>

using namespace std;

int main()

{

char str[40];

int count=0;

cout<<"Enter email address : ";

fgets(str,40,stdin);

try

{

for(int i=0;str[i]!=0&&count==0;i++)

{

if(str[i]=='@')

count++;

}

if(count==0)

throw "Invalid Email";

}

catch(const char\* c)

{

cout<<c<<endl;

}

return 0;

}

5. Write a C++ program to accept a mobile number and throw an exception if it does not

contain 10 digits.

Sol – 5.

#include<iostream>

using namespace std;

int main()

{

int num,count=0;

cout<<"Enter Phone num : ";

cin>>num;

try

{

while(num)

{

num/=10;

count++;

}

if(count!=10)

throw "Invalid Phone Number";

else

cout<<"Valid Phone Number";

}

catch(const char\* c)

{

cout<<c<<endl;

}

return 0;

}

6. Write a C++ program to accept area pin code and throw an exception if it does not

contain 6 digits.

Sol – 6.

#include<iostream>

using namespace std;

int main()

{

int num,count=0;

cout<<"Enter Pin Code : ";

cin>>num;

try

{

while(num)

{

num/=10;

count++;

}

if(count!=6)

throw "Invalid Pin Code";

else

cout<<"Valid Pin Code";

}

catch(const char\* c)

{

cout<<c<<endl;

}

return 0;

}

7. Write a C++ program to accept a username if the username has less than 6 characters

or does contain any digit or special symbol.

Sol – 7.

#include<iostream>

#include<string.h>

using namespace std;

int main()

{

char str[20];

int flag1=0;

int flag2=0;

cout<<"Enter Username : ";

fgets(str,20,stdin);

str[strlen(str)-1]=0;

try

{

for(int i=0;str[i]!=0;i++)

{

if((str[i]>=65&&str[i]<=90)||(str[i]>=97&&str[i]<=122))

flag1++;

else

flag2=1;

}

if(flag2==1||flag1<6)

throw "Invalid Username";

else

cout<<"Valid Username";

}

catch(const char\* c)

{

cout<<c<<endl;

}

return 0;

}

8. Write a C++ program to accept a password and throw an exception if the password has

less than 6 characters or does not contain a digit or does not contain any special

character or does not contain any capital letter.

Sol – 8.

#include<iostream>

#include<string.h>

using namespace std;

int main()

{

char str[30];

int flag1=0;

int flag2=0;

cout<<"Enter Password : ";

fgets(str,30,stdin);

str[strlen(str)-1]=0;

try

{

if(strlen(str)<6)

throw "Invalid Password";

for(int i=0;str[i]!=0;i++)

{

if(str[i]>='0'&&str[i]<='9')

flag1=1;

if(str[i]=='!'||str[i]<='@'||str[i]<='#'||str[i]<='%')//including only 4 special char

flag2=1;

}

if(flag1==0||flag2==0)

throw "Invalid Password";

else

cout<<"Valid Password";

}

catch(const char\* c)

{

cout<<c<<endl;

}

return 0;

}

9. Write a C++ program to accept Gmail id only and throw an exception if the id does not

contain @ and gmail.com.

Sol – 9.

#include<iostream>

#include<string>

using namespace std;

int main()

{

string email;

string gmail = "@gmail.com";

cout<<"Enter a gmail : ";

cin>>email;

if(email.find(gmail)!= -1)

{

cout<<"Valid gmail";

}

else

cout<<"Invalid gmail";

return 0;

}

10. Write a C++ program to accept Nickname and throw an exception if it has greater than 8

characters or does contain a digit or special symbol or space.

Sol – 10.

#include<iostream>

#include<string.h>

using namespace std;

int main()

{

char str[11];

int flag=0;

cout<<"Enter Nickname : ";

fgets(str,11,stdin);

str[strlen(str)-1]=0;

try

{

if(strlen(str)>8)

throw "Invalid Nickname";

for(int i=0;str[i]!=0&&flag==0;i++)

{

if((str[i]>=65&&str[i]<=90)||(str[i]>=97&&str[i]<=122))

continue;

else

flag=1;

}

if(flag==1)

throw "Invalid Nickname";

else

cout<<"Valid Nickname";

}

catch(const char\* c)

{

cout<<c<<endl;

}

return 0;

}