```cpp
/*In any language program mostly syntax error occurs due to unbalancing delimiter such as
(),{},[]. Write C++ program using stack to check whether given expression is well
parenthesized or not.
*/


#include <iostream>
using namespace std;
#define size 10

class stackexp
{
    int top;
    char stk[size];
public:
    stackexp()
    {
     top=-1;
    }
    void push(char);
    char pop();
    int isfull();
    int isempty();
};

void stackexp::push(char x)
{
    top=top+1;
    stk[top]=x;
}

char stackexp::pop()
{
    char s;
    s=stk[top];
    top=top-1;
    return s;
}

int stackexp::isfull()
{
    if(top==size)
        return 1;
    else
        return 0;
}

int stackexp::isempty()
{
    if(top==-1)
        return 1;
    else
        return 0;
}

int main()
{
    stackexp s1;
    char exp[20],ch;
    int i=0;
    cout << "\n\t!! Parenthesis Checker..!!!!" << endl; // prints !!!Hello World!!!
    cout<<"\nEnter the expression to check whether it is in well form or not :  ";
    cin>>exp;
    if((exp[0]==')')||(exp[0]==']')||(exp[0]=='}'))
    {
        cout<<"\n Invalid Expression.....\n";
```

```cpp
            return 0;
        }
        else
        {
            while(exp[i]!='\0')
            {
                ch=exp[i];
                switch(ch)
                {
                case '(':s1.push(ch);break;
                case '[':s1.push(ch);break;
                case '{':s1.push(ch);break;
                case ')':s1.pop();break;
                case ']':s1.pop();break;
                case '}':s1.pop();break;
                }
                i=i+1;
            }
        }
        if(s1.isempty())
        {
            cout<<"\nExpression is well parenthesised...\n";
        }
        else
        {
            cout<<"\nSorry !!! Invalid Expression or not in well parenthesized....\n";
        }
        return 0;
}

/
***********************************************************************************************/
```

Output : -

ubuntu@ubuntu-Vostro-460:~$ g++ practical10dsl.cpp
ubuntu@ubuntu-Vostro-460:~$ ./a.out

    !! Parenthesis Checker..!!!!

Enter the expression to check whether it is in well form or not : {{[[(())]]}}

Expression is well parenthesised...