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**Lab Assignment 2**

**actionlib\_msgs roscpp rospy std\_msgs**

#include <stdio.h>

#include <stdlib.h>

#include <string.h>

#define total 10

struct prog

{

char stk[total];

int top;

}s;

void push(char c)

{

//printf("push\n");

if(s.top<total)

{

s.stk[++s.top]=c;

//printf("if3\n");

}

else

{

printf("Stack Overflow");

}

}

void pop(char c)

{

if(s.top==-1)

{

printf("Brackets Unbalanced");

exit(0);

}

if(c==')'&&s.stk[s.top]=='(')

{

--s.top;

return;

}

else if(c==']'&&s.stk[s.top]=='[')

{

--s.top;

return;

}

else if(c=='}'&&s.stk[s.top]=='{')

{

--s.top;

return;

}

else

{

printf("Brackets Unbalanced");

exit(0);

}

}

int main(void)

{

int i,n;

char a[80], b;

s.top=-1;

printf("Enter the string:\n");

scanf("%s",a);

n=strlen(a);

for(i=0;kn;i++)

{

b=a[i];

if(b=='['||b=='('| |b=='{')

{

//printf("if1\n");

push(a[i]);

continue;

}

if(b==']'||b==')'||b=='}')

{

//printf("if2\n");

pop(a[i]);

}

if(s.top==-1)

{

printf("\nAll BracketsBalanced");

}

}