```
function romberg_value = Romberg_Func (expression, a, b, n)
f = inline (expression);
h = b-a;
r = zeros (2, n + 1);
r (1,1) = (f (a) + f (b)) / 2 * h;
fprintf('\nRomberg integration table:\n')
fprintf ('\n %7.2f \n\n', r (1,1));
for i = 2: n
   romberg_value = 0;
   for k = 1: 2 ^ (i-2)
      romberg_value = romberg_value + f (a + (k-0.5) * h);
   end
   r(2,1) = (r(1,1) + h * romberg_value) / 2;
    for j = 2: i
      l = 2 ^ (2 * (j-1));
      r (2, j) = r (2, j-1) + (r (2, j-1) -r (1, j-1)) / (l-1);
   end
   for k = 1: i
      fprintf ('% 7.5f', r (2, k));
   end
   fprintf ('\n\n');
   h = h / 2;
   for j = 1: i
      r (1, j) = r (2, j);
   end
end
```

1)
the triangles of data for N=2,3,4. Integrate 1/(1+x*x) from 0 to 1.

When N=2
>> Romberg_Func('1./(1+x)',0,1,2)

Romberg integration table:

0.75

0.70833 0.69444

When N=3

>> Romberg_Func('1./(1+x)',0,1,3)

Romberg integration table:

0.75

0.70833 0.69444

0.69702 0.69325 0.69317

When N=4

>> Romberg_Func('1./(1+x)',0,1,4)

Romberg integration table:

0.75

0.70833 0.69444

0.69702 0.69325 0.69317

0.69412 0.69315 0.69315 0.69315