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Class : TY-IT-A

Roll No : 54

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Subject : Artificial Intelligence

Lab No : 06

Problem Statement : Program for Fuzzy Sets

Code:

```cpp
#include <iostream>
#include <vector>
using namespace std;

int main()
{
    vector<double> nums = {1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16};
    double parameter = 0.6;
    for(auto iter : nums)
    {
        double ans = abs((10 - iter) / max(int(iter), 10)) * parameter;
        if(ans == 0)
        {
            cout<<iter<<" :- "<<1<<endl;
        }
        else if(ans > 1)
        {
            cout<<iter<<" :- "<<0<<endl;
        }
        else
        {
            cout<<iter<<" :- "<<1 - ans<<endl;
        }
    }
    return 0;
}
```

Output:

```
LS J , IT ($?) { .\fuzzysets J
1 :- 0.46
2 :- 0.52
3 :- 0.58
4 :- 0.64
5 :- 0.7
6 :- 0.76
7 :- 0.82
8 :- 0.88
9 :- 0.94
10 :- 1
11 :- 0.945455
12 :- 0.9
13 :- 0.861538
14 :- 0.828571
15 :- 0.8
16 :- 0.775
PS C:\Users\nupur\Desktop\c++ dsa practise>
```