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Course - B.Sc IT

Subject - PBI 202 (Operating system)

Ans ①

```
#include <bits/stdc++.h>
```

```
using namespace std;
```

```
string ltrim(const string &);
```

```
string rtrim(const string &);
```

```
vector<string> split(const string &);
```

```
/*
```

```
* Complete the 'minimumAverage' function below.
```

```
*
```

```
* The function is expected to return an INTEGER.
```

```
* The function accepts 2D-INTEGER-ARRAY  
  customers as parameter.
```

```
*/
```

```
int minimumAverage (getenv ("OUTPUT
```

```
int minimumAverage (vector<vector<int>> &customers)
```

```
{
```

```
int main()
```

```
{
```

```
ofstream fout (getenv ("OUTPUT_PATH"));
```

```
string n-temp;
```

```
getline (cin, n-temp));
```

```
vector<vector<int>> customers(n);
```

```
for (int i = 0; i < n; i++) {
    customers[i].resize(2);
```

```
    string customers_row_temp_temp;
    getline(cin, customers_row_temp_temp);
    vector<string> customers_row_temp =
    split(trim(customers_row_temp_temp),
```

```
    for (int j = 0; j < 2; j++) {
```

```
        int customers_row_item = stoi(customers_row_temp[j]);
```

```
        customers[i][j] = customers_row_item;
```

```
    }
```

```
}
```

```
int result = minimumAverage(customers);
fout << result << "\n";
fout.close();
```

```
return 0;
```

```
}
```

```
string ltrim (const string& str) {
```

```
    string s(str);
```

```
    s.erase()
```



```

s.begin(),
find - if (s.begin(), s.end(), not1(ptr
- fun<int, int>(isspace))
);

```

```

return s;

```

```

}

```

```

string &trim (const string &str) {

```

```

    string s(str);

```

```

    s.erase (

```

```

        find - if (s.begin(), s.end(), not

```

```

        1(ptr - fun<int, int>(isspace)).dual,

```

```

        s.end()

```

```

    );

```

```

    return s;

```

```

}

```

```

vector<string> split (const string&

```

```

{

```

```

    vector<string> tokens;

```

```
String::size_type start = 0;
String::size_type end = 0;
```

```
while (end = str.find('"', start)) !=
String::npos) {
```

```
tokens.push_back(str.substr(start,
end - start));
```

```
start = end + 1;
```

```
}
tokens.push_back(str.substr(start));
```

```
return tokens;
```

```
}
```