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Bsc It - 2 (A)

Ques 1.

```
#include <stdio.h>
#include <ctype.h>
#include <limits.h>
#include <math.h>
#include <stdlib.h>
#include <stddef.h>
#include <stdin.h>
#include <stdlib.h>
#include <string.h>
```

```
char* readline();
char* ltrim(char*);
char* rtrim(char*);
int pause-int(char*);
int main()
```

```
{
    File * fptr = fopen("Output-PAATH", "w");
    int n = pause-int(ltrim(rtrim(readline())));
    int ** customers = malloc(n * size of(int *));
    for (int i = 0; i < n; i++)
        (customers + i) = malloc(2 * (size of(int)));
    char ** customers-item-temp = split-string
        (rtrim/readline()));
    for (int j = 0; j < 2; j++)
```

```

{ int customers - item = pause - int (* (customers - item
temp + j));
((customers + i) + j) = customers - item; }
int result = minimum average(n, 2, customers);
fprintf(fp, "%d\n", result);
fclose(fp);
return 0;
}

char* readline() {
size_t alloc_length = 1024;
size_t data_length = 0;
char* data = malloc(alloc_length);
while (true)
{
char* cursor = data + data_length;
char* line = fgets(cursor, alloc_length - data_length,
stdin);
if (!line)
{ break; }
alloc_length <= 1;
data = realloc(data, alloc_length);
if (!data) {
data = '\0';
break;
}
}
}

```

```
if (data[data - length - 1] == '\n') {  
    data[data - length - 1] = '\0'; } }
```

else

```
{ data = realloc (data, data - length + 1);
```

```
if (!data)
```

```
{ data = '\0';
```

```
} else {
```

```
data[data - length] = '\0';
```

```
}
```

```
}
```

```
return data;
```

```
}
```

```
char* trim(char* str)
```

```
{ if (!str) {
```

```
    return '\0';
```

```
}
```

```
if (!str) {
```

```
    return str;
```

```
}
```

```
while (*str != '\0' && isspace(*str)) {
```

```
    str++;
```

```
}
```

```
return str;
```

```
}
```

```
char* rtrim(char* str) {
```

```
    if (!str) {
```

```
        return '\0';
```

```
}
```

```

char* end = str + strlen(str) - 1;
while (end > str & isspace(*end)) {
    end--;
}

```

```

*(end+1) = '\0';
return str;
}

```

```

char** split-string(char* str)

```

```

{
    char** split splits = NULL;
    char* token = strtok(str, " ");
    int spaces = 0;
    while (token) {
        splits = realloc(splits, sizeof(char*) * ++spaces);
        if (!splits) {
            return splits;
        }
    }
    return splits;
}

```

```

splits[spaces-1] = token;
token = strtok(NULL, " ");
}

```

```

return splits;
}

```

```

int parse_int(char* str) {
    char* end_ptr;
    int value = strtol(str, &end_ptr, 10);
    if (end_ptr == str || *end_ptr != '\0')

```

```

{
    exit(EXIT_FAILURE);
}

```

```

return value;
}

```

```

}

```

Deepak