

```

    if (!str) {
        return '\0';
    }
    if (!*str) {
        return str;
    }
    char * ind = str + strlen(str) - 1;
    while (ind >= str && isspace(*ind)) {

```

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```

        end--;
    }
    * (end + 1) = '\0';
    return str;
}
char** splits = NULL;
char* token = strtok(str, " ");
int spaces = 0;
while (token) {
    splits = realloc(splits, size of (char*) * ++spaces);
    if (!splits) {
        return splits;
    }
    splits[spaces - 1] = token;
    token = strtok(NULL, " ");
}
return splits;
}
int parse_int(char* str) {
    char* endptr;
    int value = atoi(str, &endptr, 10);
    if (endptr == str || *endptr != '\0') {
        exit(EXIT_FAILURE);
    }
    return value;
}

```

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## Operating System

Akanksha

### Ques 1 Code

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

char * readline();
char * rtrim(char *);
char * rtrimm(char *);

int parse_int(char *);

int main()
{
    file * fptr = fopen("output_path", "w");
    int n = parse_int(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 = parse_int(* (customers_item_temp + j));
        }
    }
}
```



```
( (customers + i) + j ) = customers - item; } }
```

```
int result = minimumAverage (n, 2, customers);
```

```
fprintf (fptr, "%d\n", result);
```

```
fclose (fptr);
```

```
return 0;
```

```
}
```

```
char * readline () {
```

```
    size_t alloc_length = 1204;
```

```
    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; }
```

```
if (data_length < alloc_length - 1 // data[data_length - 1] == '\n')
```

```
{
```

```
    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';
    }
}

```



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

```
    return str;
```

```
}
```

```
    char* ind = str + strlen(str) - 1;
```

```
    while (ind > str && isspace(*ind) {  
        ind--;
```

```
    }  
    *ind = '\0';
```

```
    return str;
```

```
}
```

```
char** splits = NULL;
```

```
char* token = strtok(str, " ");
```

```
int spaces = 0;
```

```
while (token) {
```

```
    splits = realloc(splits, (sizeof(char*) * ++spaces));
```

```
    if (!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( endptr == strll * endptr != '\0' ) {  
    exit (EXIT_FAILURE);
```

```
}
```

```
return value;
```

```
}
```