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Section - 'A'
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Semester - 2nd
Subject - PBI-202

Ans (1)

```
#include<assert.h>
#include<ctype.h>
#include<limits.h>
#include<math.h>
#include<stdbool.h>
#include<stddef.h>
#include<stdint.h>
#include<stdio.h>
#include<stdlib.h>
#include<string.h>
char *readline();
char *ltrim(char *);
char *rtrim(char *);
char **split_string(char *);
int parse_int(char *);
```

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```
int minimumAverage(int customers_rows, int
 customers_columns, int ** customers) {

}
int main()
{
 FILE *fptr = fopen(getenv("OUTPUT_PATH"), "w");
 int n = parse_int(ltrim(rtrim(readline())));
 int ** customers = malloc(n * sizeof(int *));

  for(int i=0; i<n; i++) {
     *(customers + i) = malloc(2 * (sizeof(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);
```

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```
    fprintf(fptr, "%d\n", result);
    fclose(fptr);
    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;
        }
        data_length += strlen(cursor);
        if(data_length < alloc_length - 1 || data[data_
                           length - 1] == '\n'){
            break;
        }
```

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```
alloc_length <<= 1;
data = realloc(data, alloc_length);
    if(!data){
     data = '\0';
      break;
    }
}
if(data[data_length-1] == '\n'){ data[data_length
                                -1] = '\0';
    data = realloc(data, data_length);
        if(!data){
        data = '\0';
    }
}else{
    data = realloc(data, data_length+1);
        if(!data){
        data = '\0';
    }else{
        data[data_length] = '\0';
    }
}
```

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```
    return data;
}
char * ltrim(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 *end = str + strlen(str) - 1;
```

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```
while(end >= str && isspace(*end)){
    end--;
}
*(end+1) = '\0';
return str;
}

char ** split_string(char *str){
 char ** splits = NULL;
 char * token = strtok(str, " ");
 int spaces = 0;
while (token){
 splits = realloc(splits, sizeof(char*)*++spaces);
  if(!splits){
     return splits;
 }
  splits[space-1] = token;
  token = strtok(NULL, " ");
}
 return splits;
}
 int parse_int(char *str){
   char * endptr;
int value = strtol(str, &endptr, 10);
```

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```
if (endptr == str || *endptr != '\0')
    exit (EXIT_FAILURE);
}
return value;
}
```

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