Project Explanation

Assalamu alaikum sir.

Participents: Md Rahadul Islam: Id: 231 123 038

Submitted to: Md Jakaria Shams Siam
Lecturer; Presidency University

```
#include<stdio.h>
#include<stdlib.h>
#include<string.h>
struct mBG{
   int amt;
   char type[10];};
struct mBG bG[10];
   char bT[10];
   int amt;
   int choice;
   int count=0;
```

- struct BG: Here, it is a short form. It means “Struct Blood Group”. It is a structure which is used to store information about a blood group int the program.
- bG [10]: Here, it is a short form. It means “Blood Group”. This is an array which is used to keep up to 10 blood group records.
- bT(Blood Type), amt (Amount / quantity), choice , count: -The variable count which have used to track the number of blood groups which have currently stored and other variables has temporary variables which are used for user input and operations.

Addition of the Blood Groups is explained below:

```
void addBloodGroup(){
   printf("\nPlease, enter the blood type: ");
   scanf("%s",bT);
   printf("Please, enter the quantity of Blood: ");
   scanf("%d",&amt);
   if(count<10){
      strcpy(bG[count].type,bT);
      bG[count].amt=amt;
      count++;
      printf("\nThanks! The Blood Group have added successfully!\n");}
   else{
      printf("\nSorry, Blood Bank Storage is full. You cannot add more Blood Groups.\n"); }}

void deleteBloodGroup(){
   printf("Enter the Blood Group that you want to delete: ");
   scanf("%s",bT);
   for(int i=0; i<count; i++){
```

```
        if(strcmp(bG[i].type,bT)==0){
            for(int j=i; j<count-1; j++){
                strcpy(bG[j].type, bG[j+1].type);
                bG[j].amt=bG[j+1].amt;}
                count--;
                printf("\nThe %s Blood Group have deleted successfully!\n",bT);
                return;}}
                printf("\nSorry! Blood group is not found.\n"); }

void searchBloodGroup(){
    printf("Enter the type of Blood to search: ");
    scanf("%s",bT);
    for(int i=0; i<count; i++){
        if(strcmp(bG[i].type, bT)==0){
            printf("\nThe %s Blood Group have found. Enter the quantity: %d\n", bT, bG[i].amt);
            return; }}
            printf("\nSorry! ++The Blood Group is not found.\n"); }

void displayBloodGroups(){
    printf("Blood Groups is:\n");
    for (int i = 0; i < count; i++){
        printf("\t %s: %d\n", bG[i].type, bG[i].amt); }}

void updateBloodQuantity(){
    printf("To update, please enter the Blood Type: ");
    scanf("%s",bT);
    printf("Enter the new quantity: ");
    scanf("%d",&amt);
    for(int i=0; i<count; i++){
        if(strcmp(bG[i].type,bT)==0){
            bG[i].amt=amt;
            printf("\nThanks! The %s quantity of Blood Group is updated successfully!\n", bT);
            return; }}
            printf("\nSorry! The Blood Group have not found.\n");}

void createBloodGroupPack() {
    int countThePack;
    printf("Enter the number of blood groups to include in the package: ");
    scanf("%d", &countThePack);

    struct mBG pack[countThePack];
    for(int i = 0; i < countThePack; i++) {
        printf("\nEnter Blood Type for package item %d: ", i + 1);
        scanf("%s", bT);
        printf("Enter Quantity for package item %d: ", i + 1);
        scanf("%d", &amt);
```

Use of these functions:-

Add Blood Groups: Here it is a function which first asks the user that how many blood groups the user want to add. And after that, there is a “Loop” which is used for Each Blood Group which the user inputs. The loop runs for the number of blood groups to specify. For each iteration, the function prompts the user to enter the blood type and quantity and checks if the blood type already exists in the inventory etc.

Delete the Blood Group: This function asks users to enter the blood type which they want to delete. If the blood type is used, then it is used to delete the amount which is already used.

Search for the Blood Type: This function is used to find the blood group array to know the amount of bloods which are stored in the blood bank.

Display Blood Groups: If the blood type is found, the function displays the blood type and its quantity. If the blood type is not found, the function notifies the user that the blood group was not found.

Create Blood group pack: The functio asks to the user that how many blood groups the users want to include in the package.

Main function :

```
int main(){
   while(1){
      printf("Welcome To Our Blood Donation Organization. \nPlease, donate blood for
people and be ready to get blood when you need.\n\n");
      printf("1. Add Blood Group              :   \n");
      printf("2. Delete Blood Group           :   \n");
      printf("3. Search Blood Group           :   \n");
      printf("4. Display Blood Groups         :   \n");
      printf("5. Update Blood Quantity        :   \n");
      printf("6. Blood Group Package          :   \n");
      printf("7. Exit Now\n\n\n");
      printf("Please, choose an option from above : ");
      scanf("%d", &choice);

      switch (choice){
      case 1:
         addBloodGroup();
         break;
      case 2:
         deleteBloodGroup();
         break;
      case 3:
         searchBloodGroup();
         break;
      case 4:
         displayBloodGroups();
         break;
```

```
        case 5:
            updateBloodQuantity();
            break;
        case 6:
            createBloodGroupPack();
            break;
        case 7:
            exit(0);
        default:
            printf("Sorry! Invalid choice!\n"); }}

        return 0;
}
```

Infinite Loop: The `main` function runs an infinite loop using `while(1)` to continuously present a menu until the user chooses to exit.
Display Menu: Inside the loop, a menu with options is displayed to the user. The user is prompted to enter a choice corresponding to one of the menu options.
Handle User Choice: The user's choice is read using `scanf`, and a `switch` statement is used to handle the different cases based on the user's input. Each case calls a different function to perform the desired operation.
Exit Option: If the user want to turn of the program after their works, they will choose the exit option (`7`) to exit from the program.

Output :

"C:\Users\USER\3D Objects\Assignment.exe"

```
Welcome To Our Blood Donation Organization.
Please, donate blood for people and be ready to get blood when you need.

1. Add Blood Group                  :
2. Delete Blood Group               :
3. Search Blood Group               :
4. Display Blood Groups             :
5. Update Blood Quantity            :
6. Blood Group Package              :
7. Exit Now


Please, choose an option from above : 1

Please, enter the blood type: O+
Please, enter the quantity of Blood: 5

Thanks! The Blood Group have added successfully!
Welcome To Our Blood Donation Organization.
Please, donate blood for people and be ready to get blood when you need.

1. Add Blood Group                  :
2. Delete Blood Group               :
3. Search Blood Group               :
4. Display Blood Groups             :
5. Update Blood Quantity            :
6. Blood Group Package              :
7. Exit Now


Please, choose an option from above : 2
Enter the Blood Group that you want to delete: O+

The O+ Blood Group have deleted successfully!
Welcome To Our Blood Donation Organization.
Please, donate blood for people and be ready to get blood when you need.

1. Add Blood Group                  :
2. Delete Blood Group               :
3. Search Blood Group               :
4. Display Blood Groups             :
5. Update Blood Quantity            :
6. Blood Group Package              :
7. Exit Now
```

Select "C:\Users\USER\3D Objects\Assignment.exe"

```
Welcome To Our Blood Donation Organization.
Please, donate blood for people and be ready to get blood when you need.

1. Add Blood Group                  :
2. Delete Blood Group               :
3. Search Blood Group               :
4. Display Blood Groups             :
5. Update Blood Quantity            :
6. Blood Group Package              :
7. Exit Now


Please, choose an option from above : 1

Please, enter the blood type: O+
Please, enter the quantity of Blood: 5

Thanks! The Blood Group have added successfully!
Welcome To Our Blood Donation Organization.
Please, donate blood for people and be ready to get blood when you need.

1. Add Blood Group                  :
2. Delete Blood Group               :
3. Search Blood Group               :
4. Display Blood Groups             :
5. Update Blood Quantity            :
6. Blood Group Package              :
7. Exit Now


Please, choose an option from above : 4
Blood Groups is:
         O+: 5
Welcome To Our Blood Donation Organization.
Please, donate blood for people and be ready to get blood when you need.

1. Add Blood Group                  :
2. Delete Blood Group               :
3. Search Blood Group               :
4. Display Blood Groups             :
5. Update Blood Quantity            :
6. Blood Group Package              :
7. Exit Now
```

"C:\Users\USER\3D Objects\Assignment.exe"

```
Welcome To Our Blood Donation Organization.
Please, donate blood for people and be ready to get blood when you need.

1. Add Blood Group                  :
2. Delete Blood Group               :
3. Search Blood Group               :
4. Display Blood Groups             :
5. Update Blood Quantity            :
6. Blood Group Package              :
7. Exit Now


Please, choose an option from above : 5
To update, please enter the Blood Type: O+
Enter the new quantity: 2

Thanks! The O+ quantity of Blood Group is updated successfully!
Welcome To Our Blood Donation Organization.
Please, donate blood for people and be ready to get blood when you need.

1. Add Blood Group                  :
2. Delete Blood Group               :
3. Search Blood Group               :
4. Display Blood Groups             :
5. Update Blood Quantity            :
6. Blood Group Package              :
7. Exit Now


Please, choose an option from above : 6
Enter the number of blood groups to include in the package: 2

Enter Blood Type for package item 1:
```

"C:\Users\USER\3D Objects\Assignment.exe"

```
Welcome To Our Blood Donation Organization.
Please, donate blood for people and be ready to get blood when you need.

1. Add Blood Group                  :
2. Delete Blood Group               :
3. Search Blood Group               :
4. Display Blood Groups             :
5. Update Blood Quantity            :
6. Blood Group Package              :
7. Exit Now


Please, choose an option from above : 7

Process returned 0 (0x0)   execution time : 4.194 s
Press any key to continue.
```