

Ex. No: 7

Date: 08-11-2021

USER DEFINED FUNCTIONS

PROBLEM GIVEN:

Write a program to implement user defined functions to implement the following functionality 1. Read details 2. BILL Calculation 3. print details

ALGORITHM:

Step 1: Start

Step 2: Declare functions for 1. Read details, 2. Bill Calculation and 3. Print Details.

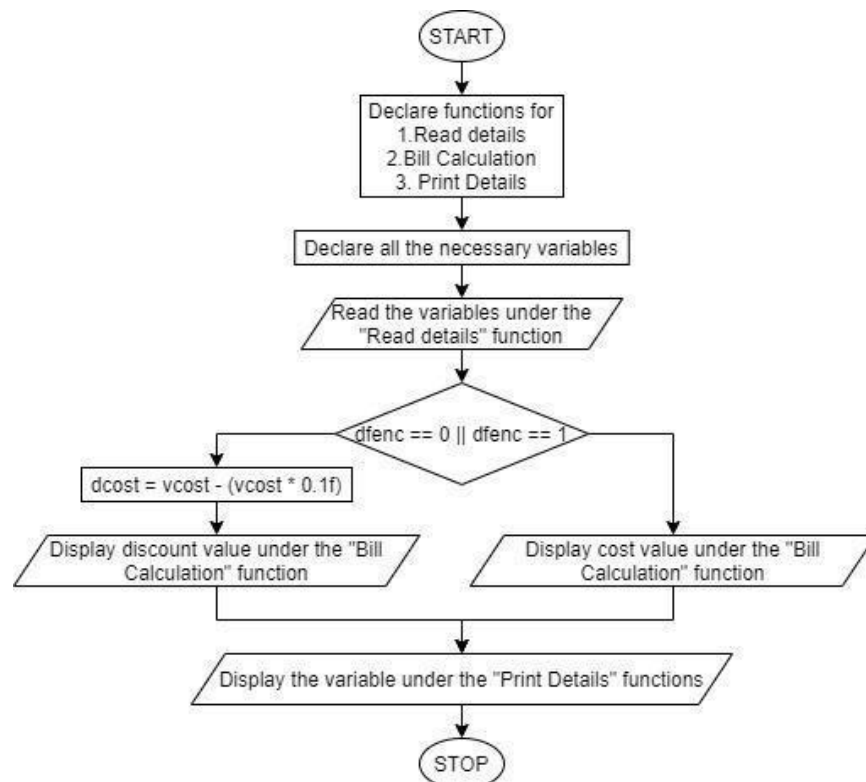
Step 3: Declare all the necessary variables

Step 4: Read the variables under the "Read details" function

Step 5: If $dfenc == 0 \parallel dfenc == 1$, $dcost = vcost - (vcost * 0.1f)$ and Display discount value under the "Bill Calculation" function, else Display cost value under the "Bill Calculation" function

Step 6: Display the variable under the "Print Details" functions Step 7: Stop

FLOWCHART:



PROGRAM:

```
#include <stdio.h>

enum variants { Hatchback, Sedan, SUV, MUV };
enum defence { defence, exdefence };

void readinfo();
void billcalc();
void printinfo();

//Get the details of the car and customer
char vname[20], vcolor[10], cname[20], gendr[20], engine[20];
enum variants vtype;
enum defence dfenc;
float vcost, dcost;
int nov, bookp, bookid, choice;

void readinfo()
{
    printf("1. Read Details\n");
    printf("Enter name of the vehicle: ");
    scanf("%s", &vname);
    printf("Variant of the vehicle:\n(a) Hatchback\n(b) Sedan\n(c) SUV\n(d) MUV\n");
    printf("Choose Variant (0, 1, 2, 3): ");
    scanf("%d", &vtype);
    //Check the type of vehicle for cost of the vehicle
    if (vtype == 0) {
        printf("Enter Cost of the Hatchback (4L - 8L): ");
        scanf("%f", &vcost);
    }
    else if (vtype == 1) {
        printf("Enter Cost of the Sedan (8L - 11L): ");
        scanf("%f", &vcost);
    }
    else if (vtype == 2) {
        printf("Enter Cost of the SUV (13L - 40L): ");
        scanf("%f", &vcost);
    }
    else if (vtype == 3) {
        printf("Enter Cost of the MUV (5L - 25L): ");
        scanf("%f", &vcost);
    }
}
```

```

else {
    printf("Invalid Input!!\n");
}
printf("Enter colour of the vehicle: ");
scanf("%s", &vcolor);
printf("Enter number of vehicles available: ");
scanf("%d", &nov);
printf("Enter booking period(open-1, close-0): ");
scanf("%d", &bookp);
printf("Enter name of the customer: ");
scanf("%s", &cname);
printf("Enter gender: ");
scanf("%s", &gendr);
printf("Occupation:\n");
printf("(a) Defence worker\n(b) Ex-defence worker\n(c) Neither\n");
printf("Choose Occupation(0, 1, 2): ");
scanf("%d", &dfenc);
printf("Enter booking ID: ");
scanf("%d", &bookid);
}

```

```

void billcalc()
{
    printf("\n2. Bill Calculation\n");
    if (dfenc == 0 || dfenc == 1) {
        printf("\tTotal Cost: %f\n", vcost);
        printf("\tDiscount Amount: %f\n", vcost * 0.1f);
        dcost = vcost - (vcost * 0.1f);
        printf("\tCost after discount: %f\n", dcost);
    }
    else {
        printf("\tDiscount not available.\n");
        printf("\tCost of the vehicle: %f\n", vcost);
    }
}

```

```

void printinfo()
{
    printf("\n3. Print Details");
    //Print Invoice
    printf("\n\t-----INVOICE-----\n");
    printf("\tName of the customer: %s\n", cname);
    printf("\tBooking ID: %d\n", bookid);
    printf("\tName of the vehicle: %s\n", vname);
}

```

```

//Check the type of vehicle for Invoice
if (vtype == 0) {
    printf("\tVariant: Hatchback\n");
}
else if (vtype == 1) {
    printf("\tVariant: Sedan\n");
}
else if (vtype == 2) {
    printf("\tVariant: SUV\n");
}
else if (vtype == 3) {
    printf("\tVariant: MUV\n");
}
else {
    printf("\tInvalid Input!!\n");
}
printf("\tColour: %s\n", vcolor);
//Check occupation for discount
if (dfenc == 0 || dfenc == 1) {
    dcost = vcost - (vcost * 0.1f);
    printf("\tCost after discount: %f\n", dcost);
}
else {
    printf("\tCost: %f\n", vcost);
}
//Check the number of vehicles available
(nov > 0) ? printf("\tNo of vehicles available: %d\n", nov)
: printf("\tVehicle not available\n");
//Check booking period
if (bookp == 1) {
    printf("\tBooking: Open\n");
}
else {
    printf("\tBooking: Close\n");
}
}

int main()
{
    readinfo();
    billcalc();
    printinfo();
}

```

OUTPUT:

```
C:\Users\ashva\source\repos\exp7\exp7\exp7code.exe
1. Read Details
Enter name of the vehicle: Kiwi
Variant of the vehicle:
(a) Hatchback
(b) Sedan
(c) SUV
(d) MUV
Choose Variant (0, 1, 2, 3): 2
Enter Cost of the SUV (13L - 40L): 1564541.25
Enter colour of the vehicle: Blue
Enter number of vehicles available: 465
Enter booking period(open-1, close-0): 1
Enter name of the customer: Ashvath
Enter gender: Male
Occupation:
(a) Defence worker
(b) Ex-defence worker
(c) Neither
Choose Occupation(0, 1, 2): 1
Enter booking ID: 654654

2. Bill Calculation
   Total Cost: 1564541.250000
   Discount Amount: 156454.125000
   Cost after discount: 1408087.125000

3. Print Details
   -----INVOICE-----
   Name of the customer: Ashvath
   Booking ID: 654654
   Name of the vehicle: Kiwi
   Variant: SUV
   Colour: Blue
   Cost after discount: 1408087.125000
   No of vehicles available: 465
   Booking: Open

   -----
Process exited after 91.75 seconds with return value 0
Press any key to continue . . .
```