**Assignment 02 Using Type 4**

#include <stdio.h>

float discount(float);

int greatestOfThree(int, int, int);

void calculator();

int addition(int, int);

void UseChoice();

int substraction(int, int);

int multiplication(int, int);

int division(int, int);

int greatOfThree(int, int, int);

float discountStudent(float, char);

void evenOdd(int);

void salary(float);

void main()

{

    int ch = 1;

    while (ch)

    {

        printf("\n Eneter your choice : \n");

        printf("1) Discount: \n");

        printf("2) Greatest of Three: \n");

        printf("3) calculator: \n");

        printf("4) UserChoice : \n");

        printf("5) Student Discount: \n");

        printf("Enter 0 To exit");

        scanf("%d", &ch);

        if (ch > 5 || ch < 0)

        {

            printf("Inavalid Choice !");

        }

        else if (ch == 1)

        {

            float Op;

            printf("Enter Original Price broo:");

            scanf("%f", &Op);

            printf("%.4f is final Price \n ", discount(Op));

        }

        else if (ch == 2)

        {

            printf("Gretest of Three Numbers \n");

            // get value of a b c from user

            printf("\n Enter 3 Numbers :");

            int A, B, C;

            scanf("%d%d%d", &A, &B, &C);

            printf("%d is greatest. \n", greatestOfThree(A, B, C));

        }

        else if (ch == 3)

        {

            calculator();

        }

        else if (ch == 4)

        {

            UseChoice();

        }

        else if (ch == 5)

        {

            float price, finalprice;

            printf("Enter Price of the product : \n");

            scanf("%f", &price);

            printf("Are you a Student ? (Y/N) \n");

            char std = getch();

            printf("%.2f is Final Price. \n", discountStudent(price, std));

        }

        else if (ch == 0)

        {

            break;

        }

    }

}

float discount(float Op)

{

    float finalPrice;

    if (Op <= 1000)

    {

        finalPrice = Op - (0.05 \* Op);

        return finalPrice;

    }

    else if (Op <= 5000)

    {

        finalPrice = Op - (0.10 \* Op);

        return finalPrice;

    }

    else if (Op <= 10000)

    {

        finalPrice = Op - (0.20 \* Op);

        return finalPrice;

    }

    else if (Op > 10000)

    {

        finalPrice = Op - (0.25 \* Op);

        return finalPrice;

    }

}

int greatestOfThree(int A, int B, int C)

{

    return A > B && A > C ? A : B > C ? B

                                      : C;

}

void calculator()

{

    printf("Enetr your Choice: \n");

    printf("A Addition \n");

    printf("S Substraction \n");

    printf("M Multiplication \n");

    printf("D Dividion \n");

    char op = getch();

    int A, B;

    if (op == 'A')

    {

        printf("Chosen Operation is Addition.. \n ");

        printf("Enter Two numbers : ");

        scanf("%d%d", &A, &B);

        printf("%d is Addition.", addition(A, B));

    }

    else if (op == 'S')

    {

        printf("Chosen Operation is Substraction.. \n ");

        printf("Enter Two numbers : ");

        scanf("%d%d", &A, &B);

        printf("%d is Substraction.", substraction(A, B));

    }

    else if (op == 'M')

    {

        printf("Chosen Operation is Multiplication.. \n ");

        printf("Enter Two numbers : ");

        scanf("%d%d", &A, &B);

        printf("%d is Multiplication ", multiplication(A, B));

    }

    else if (op == 'D')

    {

        printf("Enter Two numbers : ");

        scanf("%d%d", &A, &B);

        printf("Chosen Operation is Division.. \n ");

        printf("%d is Division \n", division(A, B));

    }

}

int addition(int A, int B)

{

    return (A + B);

}

int division(int A, int B)

{

    if (A == 0 || B == 0)

    {

        printf("Divide by zero exception !!!");

        return 0;

    }

    else if (A < B)

    {

        return (B / A);

    }

    else

    {

        return (A / B);

    }

}

int substraction(int A, int B)

{

    return (B - A);

}

int multiplication(int A, int B)

{

    return (A \* B);

}

void UseChoice()

{ // Choice to be taken from user when learn about Scan

    printf("\n Enter Your choice \n");

    printf("\n E for EvenOdd \n");

    printf("\n S for Slary Calculation \n");

    printf("\n G for Finding greatest of three. \n");

    char choice = getch();

    if (choice == 'E')

    {

        int num;

        printf("Enter A number to check Even or Odd \n");

        scanf("%d", &num);

        evenOdd(num);

    }

    else if (choice == 'S')

    {

        printf("Salary calculation \n");

        float baseSalary;

        printf("Enter Base salary: \n");

        scanf("%f", &baseSalary);

        salary(baseSalary);

    }

    else if (choice == 'G')

    {

        printf("Gretest of Three Numbers \n");

        // get value of a b c from user

        printf("\n Enter 3 Numbers :");

        int A, B, C;

        scanf("%d%d%d", &A, &B, &C);

        printf("%d is greatest. \n", greatestOfThree(A, B, C));

    }

}

float discountStudent(float price, char std)

{

    float finalprice;

    if (std == 'Y')

    {

        if (price >= 500)

        {

            finalprice = price - (price \* 0.20);

        }

        else

        {

            finalprice = price - (price \* 0.10);

        }

    }

    else if (std == 'N' && price > 600)

    {

        finalprice = price - (price \* 0.15);

    }

    else

    {

        finalprice = price;

    }

    return (finalprice);

}

void evenOdd(int num)

{

    if (num % 2 == 0)

    {

        printf("Number is Even \n");

    }

    else

    {

        printf("Number is odd.");

    }

}

void salary(float baseSalary)

{

    float DA, TA, HRA;

    if (baseSalary <= 5000)

    {

        DA = 0.10 \* baseSalary;

        TA = 0.20 \* baseSalary;

        HRA = 0.25 \* baseSalary;

    }

    else

    {

        DA = 0.15 \* baseSalary;

        TA = 0.25 \* baseSalary;

        HRA = 0.30 \* baseSalary;

    }

    printf("\n %.4f is Totalsalary.", DA + TA + HRA + baseSalary);

}

Output:

PS C:\Code> & 'c:\Users\bhagv\.vscode\....\TDM-GCC-64\bin\gdb.exe' '--interpreter=mi'

Eneter your choice :

1) Discount:

2) Greatest of Three:

3) calculator:

4) UserChoice :

5) Student Discount:

Enter 0 To exit1

Enter Original Price broo:1800

1620.0000 is final Price

Eneter your choice :

1) Discount:

2) Greatest of Three:

3) calculator:

4) UserChoice :

5) Student Discount:

Enter 0 To exit2

Gretest of Three Numbers

Enter 3 Numbers :67

89

09

89 is greatest.

Eneter your choice :

1) Discount:

2) Greatest of Three:

3) calculator:

4) UserChoice :

5) Student Discount:

Enter 0 To exit3

Enetr your Choice:

A Addition

S Substraction

M Multiplication

D Dividion

Chosen Operation is Addition..

Enter Two numbers :

45

667

712 is Addition.

Eneter your choice :

1) Discount:

2) Greatest of Three:

3) calculator:

4) UserChoice :

5) Student Discount:

Enter 0 To exit4

Enter Your choice

E for EvenOdd

S for Slary Calculation

G for Finding greatest of three.

Enter A number to check Even or Odd

44

Number is Even

Eneter your choice :

1) Discount:

2) Greatest of Three:

3) calculator:

4) UserChoice :

5) Student Discount:

Enter 0 To exit5

Enter Price of the product :

1400

Are you a Student ? (Y/N)

1190.00 is Final Price.

Eneter your choice :

1) Discount:

2) Greatest of Three:

3) calculator:

4) UserChoice :

5) Student Discount:

Enter 0 To exit0

PS C:\Code>