**Assignment 2**

**// Q1. Find the price of item when discount is given (specify different discount based on price)**

#include <stdio.h>

void main () {

    int price, discount, calculateDiscount, finalPrice;

    printf("Enter the price: ");

    scanf("%d", &price);

    if (price <=1000){

        discount = 5;

    } else if (price>1000 && price <=5000)

    {

        discount = 10;

    } else {

        discount = 20;

    }

    calculateDiscount = (price \* discount)/100;

    printf("Total discount is: %d\n", calculateDiscount);

    finalPrice = price - calculateDiscount;

    printf("Your dicount Price is: %d", finalPrice);

}

**// Q2. Write a program to find greatest of three numbers using nested if-else.**

#include <stdio.h>

void main()

{

    int n1, n2, n3;

    printf("Enter n1: ");

    scanf("%d", &n1);

    printf("Enter n2: ");

    scanf("%d", &n2);

    printf("Enter n3: ");

    scanf("%d", &n3);

    if (n1 >= n2)

    {

        if (n1 >= n3)

        {

            printf("Greatest number: %d\n", n1);

        }

        else

        {

            printf("Greatest number: %d\n", n3);

        }

    }

    else

    {

        if (n2 >= n3)

        {

            printf("Greatest number: %d\n", n2);

        }

        else

        {

            printf("Greatest number: %d\n", n3);

        }

    }

    if (n1 == n2 && n2 == n3)

    {

        printf("All numbers are equal.\n");

    }

}

**//Q3. Accept two numbers from user and an operator (+,-,/,\*,%) based on that perform the desiredoperations.**

#include <stdio.h>

void main() {

    int no1, no2, result;

    printf("Enter the no1: ");

    scanf("%d", &no1);

    printf("Enter the no2: ");

    scanf("%d", &no2);

    char operator;

    printf("Enter an operatorerator to perform an operatoreration: ");

    scanf(" %c", &operator);

    if (operator == '+')

    {

        result = no1 + no2;

    } else if (operator == '-')

    {

        result = no1 - no2;

    } else if (operator == '\*')

    {

        result = no1 \* no2;

    } else if (operator == '/')

    {

        if (no2 != 0) {

            result = no1 / no2;

        } else {

            printf("Error! Division by zero.\n");

            return 1;

        }

    }  else if (operator == '%') {

        if ((int)no1 == no1 && (int)no2 == no2) {

            result = (int)no2 % (int)no2;

        } else {

            printf("Error! Modulus operatoreration requires integer values.\n");

            return 1;

        }

    }

    else {

        printf("Invalid");

    }

        printf("Result: %d\n", result);

}

**//Q4. Display a menu to the user (like 1.Even Odd 2. Basic salary etc), ask the user to enter his choice,then based on that perform the desired operations.**

#include <stdio.h>

int main() {

    int choice;

    printf("Menu \n1) Even Odd \n2) Basic Salary\n");

    printf("Enter the number to perform the operation: ");

    scanf("%d", &choice);

    if (choice == 1) {

        int no;

        printf("Even Odd\n");

        printf("Enter a number: ");

        scanf("%d", &no);

        if (no % 2 == 0) {

            printf("%d is Even\n", no);

        } else {

            printf("%d is Odd\n", no);

        }

    } else if (choice == 2) {

        double basic, hra, da, grossSalary;

        printf("Basic Salary\n");

        printf("Enter basic salary: ");

        scanf("%lf", &basic);

        hra = 0.2 \* basic; // HRA = 20% of basic salary

        da = 0.5 \* basic;  // DA = 50% of basic salary

        grossSalary = basic + hra + da;

        printf("Gross Salary = %.2f\n", grossSalary);

    } else {

        printf("Invalid Input\n");

    }

    return 0;

}

**// Q5. Accept the price from user. Ask the user if he is a student (user may say yes or no). If he is a student and he has purchased more than 500 than discount is 20% otherwise discount is 10%.But if he is not a student then if he has purchased more than 600 discount is 15% otherwise there is not discount.**

#include <stdio.h>

int main() {

    int price, yesno;

    double discount = 0.0;

    printf("Enter user price: ");

    scanf("%d", &price);

    printf("You are a student or not \n1) Yes \n2) No\n");

    scanf("%d", &yesno);

    if (yesno == 1) {

        printf("You are a Student\n");

        if (price > 500) {

            discount = 0.2 \* price;

            printf("20%% discount applied.\n");

        } else {

            discount = 0.1 \* price;

            printf("10%% discount applied.\n");

        }

    } else if (yesno == 2) {

        printf("You are not a student\n");

        if (price > 600) {

            discount = 0.15 \* price;

            printf("15%% discount applied.\n");

        } else {

            printf("No discount applied.\n");

        }

    } else {

        printf("Invalid Input\n");

        return 1;

    }

    double finalPrice = price - discount;

    printf("Final price after discount: %.2f\n", finalPrice);

    return 0;

}