

Assignment 3.1: Simple Vending Machine EASY | Memory Limit: 200000 KB | Time Limit: 1000 ms

Simple Vending Machine

Problem Submission (3)

Assignment 3.1: Simple Vending Machine

Problem

You are tasked with developing a simple program for a vending machine. The machine dispenses drinks based on user input and the amount of money inserted. The vending machine offers three drinks:

- 1: Water (7 Baht)
- 2: Soda (13 Baht)
- 3: Juice (20 Baht)

Your job is to implement the following functionality:

- The user selects a drink by entering a number (1, 2, or 3).
- The user then inserts an amount of money.
- The machine checks if the inserted amount is sufficient to buy the selected drink.

```

1 // Maimoona Aziz
2 // Assignment3.1
3
4 #include <stdio.h>
5
6 int main()
7 {
8     int TDRN; // Total amount inserted
9     int TDRN; // Total amount inserted
10    int FUND; // Total amount inserted
11
12    printf("Please enter your choice (1, 2, or 3)\n");
13    scanf("%d", &TDRN);
14    if(TDRN > 10 || TDRN < 1)
15    {
16        printf("Please enter valid choice\n");
17        return 0;
18    }
19    if(TDRN == 1 || TDRN == 2 || TDRN == 3)
20    {
21        printf("Dispensing your drink: Water\n");
22        if(FUND == 0)
23        {
24            printf("No change");
25        }
26        else
27        {
28            printf("There is your change: %.2f\n", FUND);
29        }
30    }
31    else if(TDRN == 2 && FUND >= 13)
32    {
33        printf("Dispensing your drink: Soda\n");
34        if(FUND == 0)
35        {
36            printf("No change");
37        }
38        else
39        {
40            printf("There is your change: %.2f\n", FUND);
41        }
42    }
43    else if(TDRN == 3 && FUND >= 20)
44    {
45        printf("Dispensing your drink: Juice\n");
46        if(FUND == 0)
47        {
48            printf("No change");
49        }
50        else
51        {
52            printf("There is your change: %.2f\n", FUND);
53        }
54    }
55    else
56    {
57        printf("Insufficient funds\n");
58    }
59 }

```

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Assignment 3.2: Complex Pricing System with Discounts and Tax MEDIUM | Memory Limit: 200000 KB | Time Limit: 1000 ms

Complex Pricing System with Discounts and Tax

Problem Submission (7)

Assignment 3.2: Complex Pricing System with Discounts and Tax

Problem

You are tasked with developing a pricing system that calculates the final price of a product after applying relevant discounts and taxes. The system needs to account for different types of products and promotions.

The system should follow these rules:

- Product Types:**
 - Type 1: Electronics
 - Type 2: Clothing
 - Type 3: General Goods
- Promotions:**
 - If a promotion is available ('has_promotion' = 1):
 - For Electronics and Clothing:

```

1 // Maimoona Aziz
2 // Assignment3.2
3 // Maimoona Aziz
4
5 int main()
6 {
7     float price; // Price of the item
8     float discount; // Discount applied
9     float tax; // Tax applied
10    int has_promotion; // Whether a promotion is available
11
12    printf("Enter price: ");
13    scanf("%f", &price);
14    if(price < 0)
15    {
16        printf("Price must be positive\n");
17        return 0;
18    }
19    printf("Enter discount percentage: ");
20    scanf("%f", &discount);
21    if(discount < 0 || discount > 100)
22    {
23        printf("Discount percentage must be between 0 and 100\n");
24        return 0;
25    }
26    printf("Enter tax rate: ");
27    scanf("%f", &tax);
28    if(tax < 0)
29    {
30        printf("Tax rate must be positive\n");
31        return 0;
32    }
33    printf("Enter type: ");
34    scanf("%d", &has_promotion);
35    if(type == 1 || type == 2)
36    {
37        printf("Type 1: Electronics\n");
38        printf("Type 2: Clothing\n");
39        printf("Type 3: General Goods\n");
40        if(has_promotion == 1)
41        {
42            printf("Promotion available\n");
43            if(price > 1000)
44            {
45                discount = 0.1 * price;
46                price -= discount;
47                discount = 0.05 * price;
48                price -= discount;
49                tax = 0.05 * price;
50                price += tax;
51            }
52            else if(price > 500)
53            {
54                discount = 0.05 * price;
55                price -= discount;
56                tax = 0.03 * price;
57                price += tax;
58            }
59            else if(price < 500)
56            {
57                discount = 0.02 * price;
58                price -= discount;
59                tax = 0.02 * price;
60                price += tax;
61            }
62        }
63    }
64    else
65    {
66        printf("Invalid type\n");
67        return 0;
68    }
69    float final_price;
70    if(has_promotion == 1)
71    {
72        final_price = price - discount;
73        final_price *= 1 + tax;
74    }
75    else
76    {
77        final_price = price;
78        final_price *= 1 + tax;
79    }
80    printf("Final price: %.2f\n", final_price);
81 }

```

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Assignment 3.2: Complex Pricing System with Discounts and Tax MEDIUM | Memory Limit: 200000 KB | Time Limit: 1000 ms

Complex Pricing System with Discounts and Tax

Problem Submission (7)

Assignment 3.2: Complex Pricing System with Discounts and Tax

Problem

You are tasked with developing a pricing system that calculates the final price of a product after applying relevant discounts and taxes. The system needs to account for different types of products and promotions.

The system should follow these rules:

- Product Types:**
 - Type 1: Electronics
 - Type 2: Clothing
 - Type 3: General Goods
- Promotions:**
 - If a promotion is available ('has_promotion' = 1):
 - For Electronics and Clothing:

```

1 // Maimoona Aziz
2 // Assignment3.2
3 // Maimoona Aziz
4
5 int main()
6 {
7     float price; // Price of the item
8     float discount; // Discount applied
9     float tax; // Tax applied
10    int has_promotion; // Whether a promotion is available
11    int type; // Type of the item
12
13    printf("Enter price: ");
14    scanf("%f", &price);
15    if(price < 0)
16    {
17        printf("Price must be positive\n");
18        return 0;
19    }
20    printf("Enter discount percentage: ");
21    scanf("%f", &discount);
22    if(discount < 0 || discount > 100)
23    {
24        printf("Discount percentage must be between 0 and 100\n");
25        return 0;
26    }
27    printf("Enter tax rate: ");
28    scanf("%f", &tax);
29    if(tax < 0)
30    {
31        printf("Tax rate must be positive\n");
32        return 0;
33    }
34    printf("Enter type: ");
35    scanf("%d", &type);
36    if(type == 1 || type == 2)
37    {
38        printf("Type 1: Electronics\n");
39        printf("Type 2: Clothing\n");
40        printf("Type 3: General Goods\n");
41        if(has_promotion == 1)
42        {
43            printf("Promotion available\n");
44            if(price > 1000)
45            {
46                discount = 0.15 * price;
47                price -= discount;
48            }
49            else if(price > 500)
50            {
51                discount = 0.05 * price;
52                price -= discount;
53            }
54            else if(price < 500)
55            {
56                discount = 0.02 * price;
57                price -= discount;
58            }
59        }
60    }
61    else
62    {
63        printf("Invalid type\n");
64        return 0;
65    }
66    float final_price;
67    if(has_promotion == 1)
68    {
69        final_price = price - discount;
70        final_price *= 1 + tax;
71    }
72    else
73    {
74        final_price = price;
75        final_price *= 1 + tax;
76    }
77    printf("Final price: %.2f\n", final_price);
78 }

```

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