



C Programming Lab Report



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Experiment 1: Write a C program to read the value of an integer m and display the value of n

is 1 when m is larger than 0, 0 when m is 0 and -1 when m is less than 0.

Code:

main.c

```
1  #include <stdio.h>
2
3  int main() {
4      int m, n;
5
6      printf("Enter a number (m): ");
7      scanf("%d", &m);
8
9      if (m > 0) {
10         n = 1;
11     } else if (m == 0) {
12         n = 0;
13     } else {
14         n = -1;
15     }
16
17     printf("The value of n = %d\n", n);
18
19     return 0;
20 }
21
```

==>>Output

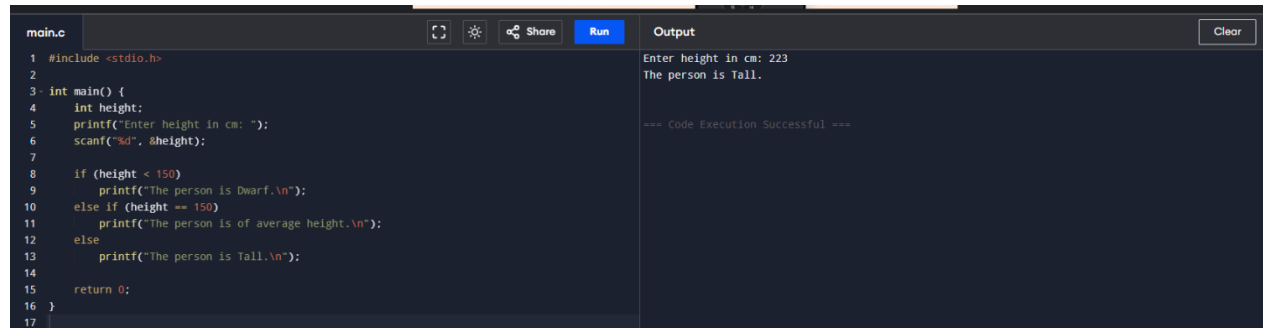
```
Enter a number (m): 7
The value of n = 1
```

```
=== Code Execution Successful ===
```

2. Categorize person by height

Objective:

To check if a person is dwarf, average, or tall based on height.

A screenshot of a code editor showing a C program. The code prompts the user to enter height in cm, reads the input, and then uses an if-else statement to categorize the person as Dwarf, average height, or Tall based on the input. The output shows the input 223 and the result 'The person is Tall.'.

```
main.c
1 #include <stdio.h>
2
3 int main() {
4     int height;
5     printf("Enter height in cm: ");
6     scanf("%d", &height);
7
8     if (height < 150)
9         printf("The person is Dwarf.\n");
10    else if (height == 150)
11        printf("The person is of average height.\n");
12    else
13        printf("The person is Tall.\n");
14
15    return 0;
16 }
17
```

Output

Enter height in cm: 223
The person is Tall.

=== Code Execution Successful ===

Input: 223

Output:

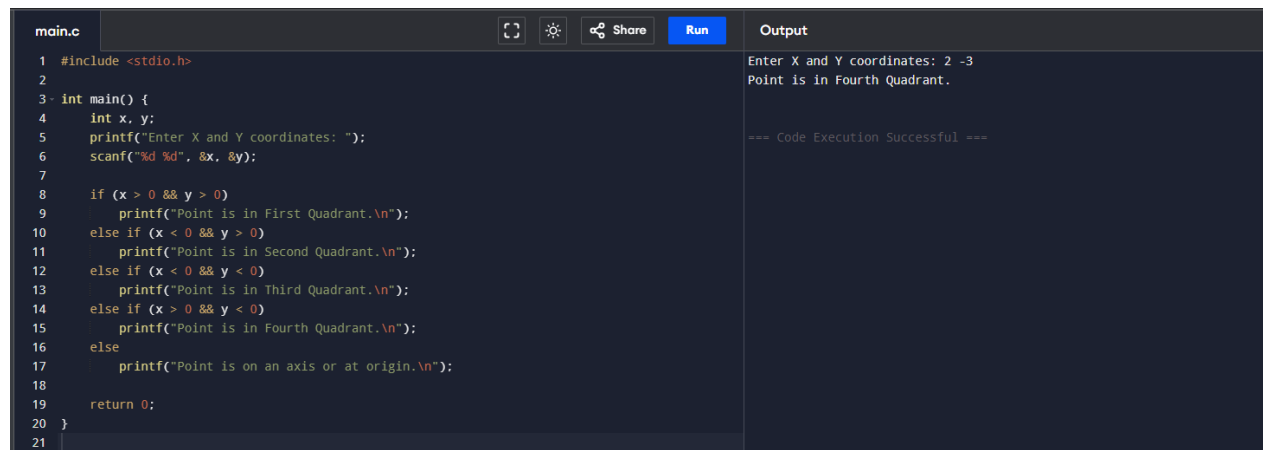
The person is Tall.

3. Find quadrant of a coordinate point

Objective:

To determine the quadrant where a point (x, y) lies.

Code:

A screenshot of a code editor showing a C program. The code prompts the user to enter X and Y coordinates, reads the input, and then uses a series of if-else statements to determine which quadrant the point lies in. The output shows the input '2 -3' and the result 'Point is in Fourth Quadrant.'.

```
main.c
1 #include <stdio.h>
2
3 int main() {
4     int x, y;
5     printf("Enter X and Y coordinates: ");
6     scanf("%d %d", &x, &y);
7
8     if (x > 0 && y > 0)
9         printf("Point is in First Quadrant.\n");
10    else if (x < 0 && y > 0)
11        printf("Point is in Second Quadrant.\n");
12    else if (x < 0 && y < 0)
13        printf("Point is in Third Quadrant.\n");
14    else if (x > 0 && y < 0)
15        printf("Point is in Fourth Quadrant.\n");
16    else
17        printf("Point is on an axis or at origin.\n");
18
19    return 0;
20 }
21
```

Output

Enter X and Y coordinates: 2 -3
Point is in Fourth Quadrant.

=== Code Execution Successful ===

Input: 2 -3

Output : Point is in Fourth Quadrant.

Experiment 4: Temperature Message

Display weather message based on temperature.

Code:

```
main.c  [Icons] [Share] [Run] Output
1  #include <stdio.h>
2
3  int main() {
4      int temp;
5      printf("Enter temperature in Celsius: ");
6      scanf("%d", &temp);
7
8      if (temp < 0)
9          printf("Freezing weather\n");
10     else if (temp <= 10)
11         printf("Very Cold weather\n");
12     else if (temp <= 20)
13         printf("Cold weather\n");
14     else if (temp <= 30)
15         printf("Normal in Temp\n");
16     else if (temp <= 40)
17         printf("It's Hot\n");
18     else
19         printf("It's Very Hot\n");
20
21     return 0;
22 }
23
```

Enter temperature in Celsius: 33
It's Hot

=== Code Execution Successful ===

Input: 33

Output : It's Hot.

Experiment 5. Write a C program to check whether a triangle is Equilateral, Isosceles, or

Scalene.

Code:

```
main.c  [Icons] [Share] [Run] Output
1  #include <stdio.h>
2
3  int main() {
4      int a, b, c;
5      printf("Enter three sides : ");
6      scanf("%d %d %d", &a, &b, &c);
7
8      if (a == b && b == c)
9          printf("Equilateral triangle\n");
10     else if (a == b || b == c || a == c)
11         printf("Isosceles triangle\n");
12     else
13         printf("Scalene triangle\n");
14
15     return 0;
16 }
17
```

Enter three sides : 22 30 22
Isosceles triangle

=== Code Execution Successful ===

Input: 22 30 22

Output : Isosceles triangle

Experiment 6 : Write a C program to check whether an alphabet is a vowel or a consonant.

Code :

```
main.c
1 #include <stdio.h>
2
3 int main() {
4     char ch;
5     printf("Enter an alphabet: ");
6     scanf("%c", &ch);
7
8     if (ch == 'a' || ch == 'e' || ch == 'i' || ch == 'o' || ch == 'u' ||
9         ch == 'A' || ch == 'E' || ch == 'I' || ch == 'O' || ch == 'U')
10        printf("The alphabet is a vowel.\n");
11    else
12        printf("The alphabet is a consonant.\n");
13
14    return 0;
15 }
16
```

Output

Enter an alphabet: p
The alphabet is a consonant.

=== Code Execution Successful ===

Input: p

Output : The alphabet is a consonant.

Experiment 7: Write a C program to calculate profit and loss on a transaction.

Code:

```
main.c
1 #include <stdio.h>
2
3 int main() {
4     float buy, sell;
5     printf("Enter buying price: ");
6     scanf("%f", &buy);
7     printf("Enter selling price: ");
8     scanf("%f", &sell);
9
10    if (sell > buy)
11        printf("Profit amount: %.2f\n", sell - buy);
12    else if (buy > sell)
13        printf("Loss amount: %.2f\n", buy - sell);
14    else
15        printf("No Profit No Loss.\n");
16
17    return 0;
18 }
19
```

Output

Enter buying price: 3
Enter selling price: 230
Loss amount: 230.00

=== Code Execution Successful ===

Input: 330,100

Output : Loss amount: 230.00

Experiment 8 : Write a program in C to read any Month Number in an integer and display the number of days for this month.

Code:

main.c	Output
<pre>1 #include <stdio.h> 2 3 int main() { 4 int month; 5 printf("Enter month number (1-12): "); 6 scanf("%d", &month); 7 8 if (month == 1 month == 3 month == 5 month == 7 9 month == 8 month == 10 month == 12) 10 printf("This month has 31 days.\n"); 11 else if (month == 4 month == 6 month == 9 month == 11) 12 printf("This month has 30 days.\n"); 13 else if (month == 2) 14 printf("February has 28 or 29 days.\n"); 15 else 16 printf("Invalid month number.\n"); 17 18 return 0; 19 } 20</pre>	<pre>Enter month number (1-12): 2 February has 28 or 29 days. === Code Execution Successful ===</pre>

Input: 2

Output : February has 28 or 29 days.

Experiment 9 : Write a program in C to convert temperature from Fahrenheit to Celsius and Celsius to Fahrenheit.

Code:

main.c	Output
<pre>1 #include <stdio.h> 2 3 int main() { 4 char choice; 5 float temp, result; 6 7 printf("Enter your choice: "); 8 scanf(" %c", &choice); 9 10 if (choice == 'c') { 11 printf("Enter temperature in Fahrenheit: "); 12 scanf("%f", &temp); 13 result = (temp - 32) * 5 / 9; 14 printf("Temperature in Celsius: %.2f\n", result); 15 } else if (choice == 'f') { 16 printf("Enter temperature in Celsius: "); 17 scanf("%f", &temp); 18 result = (temp * 9 / 5) + 32; 19 printf("Temperature in Fahrenheit: %.2f\n", result); 20 } else { 21 printf("Invalid choice.\n"); 22 } 23 24 return 0; 25 } 26</pre>	<pre>Enter your choice: f Enter temperature in Celsius: 44 Temperature in Fahrenheit: 111.20 --- Code Execution Successful ---</pre>

Input: f,44

Output : Temperature in Fahrenheit: 111.20

