



# Week-03-Decision Making and Branching - if, if...else and nested if...else, if...else if and switch...case

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Assessment-03-Decision Making and Branching - if, if...else and nested if...else



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# GE23131-Programming Using C-2024

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Attempts allowed: 3

This quiz has been configured so that students may only attempt it using the Safe Exam Browser.

Time limit: 2 hours

Grading method: Highest grade

## Your attempts

### Attempt 1

Status Finished

Started Monday, 23 December 2024, 5:33 PM

Completed Tuesday, 29 October 2024, 11:43 AM

Duration 55 days 5 hours

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# GE23131-Programming Using C-2024

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|-----------|------------------------------------|
| Status    | Finished                           |
| Started   | Monday, 23 December 2024, 5:33 PM  |
| Completed | Tuesday, 29 October 2024, 11:43 AM |
| Duration  | 55 days 5 hours                    |

## Question 1

Correct

Marked out of  
3.00

Flag question

Write a program to read two integer values and print true if both the numbers end with the same digit, otherwise print false. Example: If 698 and 768 are given, program should print true as they both end with 8. Sample Input 1 25 53 Sample Output 1 false Sample Input 2 27 77 Sample Output 2 true

**Answer:** (penalty regime: 0 %)

```
1 #include<stdio.h>
2 int main()
3 {
4     int a,b,c,d;
5     scanf("%d%d",&a,&b);
6     c=a%10;
7     d= b%10;
8     if(c==d)
9     {
10         printf("true");
11     }
12     else
13     {
14         printf("false");
15     }
16     return 0;
17 }
```

REC-CIS

```
8 if(c==d)
9 {
10     printf("true");
11 }
12 else
13 {
14     printf("false");
15 }
16 return 0;
17 }
```

|   | Input | Expected | Got   |   |
|---|-------|----------|-------|---|
| ✓ | 25 53 | false    | false | ✓ |
| ✓ | 27 77 | true     | true  | ✓ |

Passed all tests! ✓

**Question 2**

Correct

Marked out of  
5.00[Flag question](#)**Objective**

In this challenge, we're getting started with conditional statements.

**Task**

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Given an integer,  $n$ , perform the following conditional actions:

- If  $n$  is odd, print Weird
  - If  $n$  is even and in the inclusive range of 2 to 5, print **Not Weird**
  - If  $n$  is even and in the inclusive range of 6 to 20, print **Weird**
  - If  $n$  is even and greater than 20, print **Not Weird**

Complete the stub code provided in your editor to print whether or not ***n*** is weird.

## Input Format

A single line containing a positive integer, ***n***.

## Constraints

- $$\therefore 1 \leq n \leq 100$$

## Output Format

Print Weird if the number is weird; otherwise, print Not Weird.

### Sample Input 0

**Sample Input 1**

24

**Sample Output 1**

Not Weird

**Explanation***Sample Case 0: **n = 3***

**n** is odd and odd numbers are weird, so we print **Weird**.

*Sample Case 1: **n = 24***

**n > 20** and **n** is even, so it isn't weird. Thus, we print **Not Weird**.

**Answer:** (penalty regime: 0 %)

```
1 #include<stdio.h>
2 int main()
3 {
4     int n,c;
5     scanf("%d",&n);
6     c=n/2;
7     if(c==1)
8     {
9         printf("Weird");
10    }
```

```
5     scanf("%d",&n);
6     c=n/2;
7     if(c==1)
8     {
9         printf("Weird");
10    }
11    else
12    {
13        if(c==0&&c>=2&&c<=5)
14        {
15            printf("Not Weird");
16        }
17        else
18        {
19            if(c==0&&c>=6&&c<=20)
20            {
21                printf("Weird");
22            }
23            else
24            {
25                printf("Not Weird");
26            }
27        }
28    }
29 }
30 return 0;
31 }
```

REC-CIS

|   | Input | Expected  | Got       |   |
|---|-------|-----------|-----------|---|
| ✓ | 3     | Weird     | Weird     | ✓ |
| ✓ | 24    | Not Weird | Not Weird | ✓ |

Passed all tests! ✓

**Question 3**

Correct

Marked out of  
7.00[Flag question](#)

Three numbers form a Pythagorean triple if the sum of squares of two numbers is equal to the square of the third. For example, 3, 5 and 4 form a Pythagorean triple, since  $3^2 + 4^2 = 25 = 5^2$ . You are given three integers, a, b, and c. They need not be given in increasing order. If they form a Pythagorean triple, then print "yes", otherwise, print "no". Please note that the output message is in small letters. Sample Input 1 3 5 4 Sample Output 1 yes Sample Input 2 5 8 2 Sample Output 2 no

**Answer:** (penalty regime: 0 %)

```
1 #include<stdio.h>
2 int main()
3 {
4     int a,b,c;
5     scanf("%d%d%d",&a,&b,&c);
6     if(a*a+b*b==c*c || b*b+c*c==a*a || a*a+c*c==b*b)
7     {
8         printf("yes");
9     }
10    else
11        printf("no");
12    return 0;
13 }
```

REC-CIS

```
8 |     printf("yes");
9 |
10| } else
11|     printf("no");
12| return 0;
13| }
```

|   | Input       | Expected | Got |   |
|---|-------------|----------|-----|---|
| ✓ | 3<br>5<br>4 | yes      | yes | ✓ |
| ✓ | 5<br>8<br>2 | no       | no  | ✓ |

Passed all tests! ✓

Finish review

REC-CIS

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Attempts allowed: 2

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Time limit: 2 hours

Grading method: Highest grade

## Your attempts

### Attempt 1

Status Finished

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Duration 48 days 6 hours

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12-01-2025

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**Status** Finished  
**Started** Monday, 23 December 2024, 5:33 PM  
**Completed** Tuesday, 5 November 2024, 11:08 AM  
**Duration** 48 days 6 hours

### Question 1

Correct

Marked out of  
3.00

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#### Sample Input 1

3

#### Sample Output 1

Triangle

#### Sample Input 2

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Sample Output 1

Triangle

Sample Input 2

7

Sample Output 2

Heptagon

Sample Input 3

11

Sample Output 3

The number of sides is not supported.

**Answer:** (penalty regime: 0 %)

```
1 #include<stdio.h>
2 int main()
```

## Sample Output 3

The number of sides is not supported.

**Answer:** (penalty regime: 0 %)

```
1 #include<stdio.h>
2 int main()
3 {
4     int sides;
5
6     scanf("%d",&sides);
7     switch(sides)
8     {
9         case 3: sides=3;
10        printf("Triangle\n");
11        break;
12        case 4: sides=4;
13        printf("Quadrilateral\n");
14        break;
15        case 5: sides=5;
16        printf("Pentagon\n");
17        break;
18        case 6: sides=6;
19        printf("Hexagon\n");
20        break;
21        case 7: sides=7;
22        printf("Heptagon\n");
23        break;
24        case 8: sides=8;
25        printf("Octagon\n");
26        break;
27        case 9: sides=9;
28        printf("Nonagon\n");
29        break;
30        case 10: sides=10;
```



The square is white.

**Answer:** (penalty regime: 0 %)

```
1 #include<stdio.h>
2 int main()
3 {
4     char column;
5     int row,total;
6     scanf("%c%d",&column,&row);
7     total=column+row;
8     if(total %2==0)
9     {
10         printf("The square is black.");
11     }
12     else
13     {
14         printf("The square is white.");
15     }
16     return 0;
17 }
18 }
```

|   | <b>Input</b> | <b>Expected</b>      | <b>Got</b>           |   |
|---|--------------|----------------------|----------------------|---|
| ✓ | a 1          | The square is black. | The square is black. | ✓ |
| ✓ | d 5          | The square is white. | The square is white. | ✓ |

Passed all tests! ✓

REC-CIS

```
20     break;
21     case 7: sides=7;
22     printf("Heptagon\n");
23     break;
24     case 8: sides=8;
25     printf("Octagon\n");
26     break;
27     case 9: sides=9;
28     printf("Nonagon\n");
29     break;
30     case 10: sides=10;
31     printf("Decagon\n");
32     break;
33     default:
34     printf("The number of sides is not supported.\n");
35     break;
36   }
37   return 0;
38 }
```

|   | Input | Expected                              | Got                                   |   |
|---|-------|---------------------------------------|---------------------------------------|---|
| ✓ | 3     | Triangle                              | Triangle                              | ✓ |
| ✓ | 7     | Heptagon                              | Heptagon                              | ✓ |
| ✓ | 11    | The number of sides is not supported. | The number of sides is not supported. | ✓ |

Passed all tests! ✓

**Question 2**

Correct

Marked out of  
5.00[Flag question](#)

The Chinese zodiac assigns animals to years in a 12-year cycle. One 12-year cycle is shown in the table below. The pattern repeats from there, with 2012 being another year of the Dragon, and 1999 being another year of the Hare.

**Year      Animal**

|      |         |
|------|---------|
| 2000 | Dragon  |
| 2001 | Snake   |
| 2002 | Horse   |
| 2003 | Sheep   |
| 2004 | Monkey  |
| 2005 | Rooster |
| 2006 | Dog     |
| 2007 | Pig     |
| 2008 | Rat     |
| 2009 | Ox      |
| 2010 | Tiger   |
| 2011 | Hare    |

Write a program that reads a year from the user and displays the animal associated with that year. Your program should work correctly for any year greater than or equal to zero, not just the ones listed in the table.

**Sample Input 1**

2004

Sample Output 1

Monkey

Sample Input 2

2010

Sample Output 2

Tiger

**Answer:** (penalty regime: 0 %)

```
1 #include<stdio.h>
2 int main()
3 {
4     int a,b;
5     scanf("%d%d",&a,&b);
6     b=(a-2000)%12;
7     if(b==0)
8     {
9         printf("Dragon");
10    }
11    else if (b==1)
12    {
13        printf("Snake");
```

```
13 |     printf("Shark");
14 | }
15 | else if (b==2)
16 | {
17 |     printf("Horse");
18 | }
19 | else if (b==3)
20 | {
21 |     printf("Sheep");
22 | }
23 | else if (b==4)
24 | {
25 |     printf("Monkey");
26 | }
27 | else if (b==5)
28 | {
29 |     printf("Rooster");
30 | }
31 | else if (b==6)
32 | {
33 |     printf("Dog");
34 | }
35 | else if (b==7)
36 | {
37 |     printf("Pig");
38 | }
39 | else if (b==8)
40 | {
41 |     printf("Rat");
42 | }
43 | else if (b==9)
44 | {
45 |     printf("Ox");
46 | }
47 | else if (b==10)
48 | {
49 |     printf("Tiger");
50 | }
51 | else if (b==11)
52 | {
```



```
22 }  
23 else if (b==4)  
24 {  
25     printf("Monkey");  
26 }  
27 else if (b==5)  
28 {  
29     printf("Rooster");  
30 }  
31 else if (b==6)  
32 {  
33     printf("Dog");  
34 }  
35 else if (b==7)  
36 {  
37     printf("Pig");  
38 }  
39 else if (b==8)  
40 {  
41     printf("Rat");  
42 }  
43 else if (b==9)  
44 {  
45     printf("Ox");  
46 }  
47 else if (b==10)  
48 {  
49     printf("Tiger");  
50 }  
51 else if (b==11)  
52 {  
53     printf("Hare");  
54 }  
55 return 0;  
56 }
```

REC-CIS

```
48 | {  
49 |     printf("Tiger");  
50 | }  
51 | else if (b==11)  
52 | {  
53 |     printf("Hare");  
--| }
```

|   | Input | Expected | Got    |   |
|---|-------|----------|--------|---|
| ✓ | 2004  | Monkey   | Monkey | ✓ |
| ✓ | 2010  | Tiger    | Tiger  | ✓ |

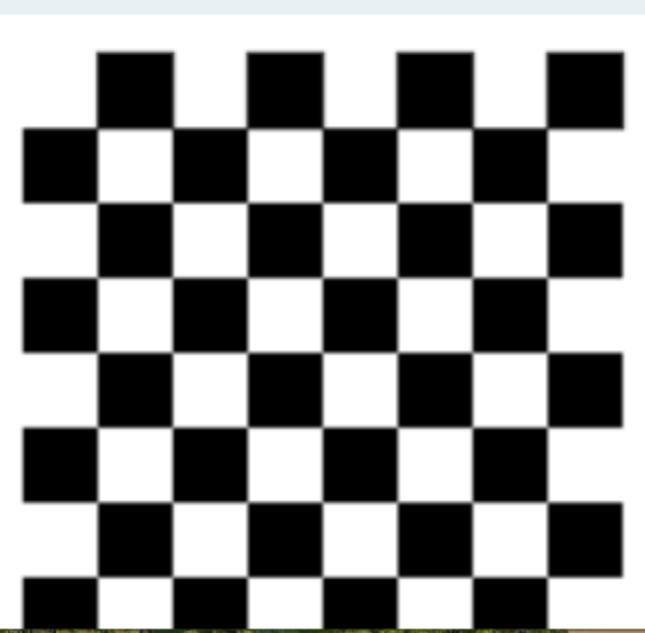
Passed all tests! ✓

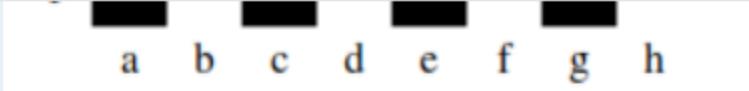
## Question 3

Correct

Marked out of  
7.00[Flag question](#)

Positions on a chess board are identified by a letter and a number. The letter identifies the column, while the number identifies the row, as shown below:





a b c d e f g h

Write a program that reads a position from the user. Use an if statement to determine if the column begins with a black square or a white square. Then use modular arithmetic to report the color of the square in that row. For example, if the user enters a1 then your program should report that the square is black. If the user enters d5 then your program should report that the square is white. Your program may assume that a valid position will always be entered. It does not need to perform any error checking.

Sample Input 1

a 1

Sample Output 1

The square is black.

Sample Input 2

d 5

Sample Output 2

The square is white.

**Answer:** (penalty regime: 0 %)

REC-CIS

Sample Output 2

600

Sample Input 3

R

10

10

Sample Output 3

100

Sample Input 4

G

8

8

Sample Output 4

0

## Sample Input

C

9

10

## Sample Output 4

0

## Explanation:

- First is output of area of rectangle
- Then, output of area of triangle
- Then output of area square
- Finally, something random, so we print 0

**Answer:** (penalty regime: 0 %)

```
1 #include<stdio.h>
2 int main()
3 {
4     char a;
5     int b;
```

Then output of area square

Finally, something random, so we print 0

**Answer:** (penalty regime: 0 %)

```
1 #include<stdio.h>
2 int main()
3 {
4     char a;
5     int b,c,d;
6     scanf("%c",&a);
7     scanf("%d%d",&b,&c);
8     switch(a)
9     {
10         case 'R':
11             d=b*c;
12             break;
13         case 'S':
14             d=0.5*b*c;
15             break;
16         case 'T':
17             d=b*c;
18             break;
19         default:
20             d=0;
21     }
22     printf("%d",d);
23 }
```

|   | Input | Expected | Got |   |
|---|-------|----------|-----|---|
| ✓ | T     | 200      | 200 | ✓ |
|   | 10    |          |     |   |

```
22     printf("%d",d);  
23 }
```

|   | Input         | Expected | Got  |   |
|---|---------------|----------|------|---|
| ✓ | T<br>10<br>20 | 200      | 200  | ✓ |
| ✓ | S<br>30<br>40 | 600      | 600  | ✓ |
| ✓ | B<br>2<br>11  | 0        | 0    | ✓ |
| ✓ | R<br>10<br>30 | 300      | 300  | ✓ |
| ✓ | S<br>40<br>50 | 1000     | 1000 | ✓ |

Passed all tests! ✓

Question 3  
Correct  
Marked out of  
7.00

Superman is planning a journey to his home planet. It is very important for him to know which day he arrives there. They don't follow the 7-day week like us. Instead, they follow a 10-day week with the following days: Day Number Name of Day 1 Sunday 2 Monday 3 Tuesday 4 Wednesday 5 Thursday 6 Friday 7 Saturday 8 Kryptoday 9 Coluday 10 Daxamday Here are the rules of the calendar: • The calendar starts with Sunday always. • It has only 296 days. After the 296th day, it goes back to Sunday. You begin your journey on a Sunday and will reach

|   |               |      |      |   |
|---|---------------|------|------|---|
| ✓ | B<br>2<br>11  | 0    | 0    | ✓ |
| ✓ | R<br>10<br>30 | 300  | 300  | ✓ |
| ✓ | S<br>40<br>50 | 1000 | 1000 | ✓ |

Passed all tests! ✓

### Question 3

Correct

Marked out of  
7.00

🚩 [Flag question](#)

Superman is planning a journey to his home planet. It is very important for him to know which day he arrives there. They don't follow the 7-day week like us. Instead, they follow a 10-day week with the following days: Day Number Name of Day 1 Sunday 2 Monday 3 Tuesday 4 Wednesday 5 Thursday 6 Friday 7 Saturday 8 Kryptoday 9 Coluday 10 Daxamday Here are the rules of the calendar:

- The calendar starts with Sunday always.
- It has only 296 days. After the 296th day, it goes back to Sunday. You begin your journey on a Sunday and will reach after n. You have to tell on which day you will arrive when you reach there.

Input format:

Contain a number n ( $0 < n$ )

Output format: Print the name of the day you are arriving on

Example Input

7

Example Output

Kryptoday

Example Input

1

REC-CIS

## Example Output

Kryptonday

## Example Input

1

Example Output Monday

**Answer:** (penalty regime: 0 %)

```
1 #include<stdio.h>
2 int main()
3 {
4     int n,day;
5     scanf("%d",&n);
6     if(n<296)
7         day=n;
8     else
9         day=n-296;
10    day%=10;
11    day=day+1;
12    day%=10;
13    switch(day)
14 {
15        case 1:
16            printf("Sunday");
17            break;
18        case 2:
19            printf("Monday");
20            break;
21        case 3:
22            printf("Tuesday");
23            break;
24        case 4:
25            printf("Wednesday");
26            break;
27        case 5:
28            printf("Thursday");
29            break;
```

REC-CIS

```
24     case 4:  
25         printf("Wednesday");  
26         break;  
27     case 5:  
28         printf("Thursday");  
29         break;  
30     case 6:  
31         printf("Friday");  
32         break;  
33     case 7:  
34         printf("Saturday");  
35         break;  
36     case 8:  
37         printf("Kryptonday");  
38         break;  
39     case 9:  
40         printf("Coluday");  
41         break;  
42     case 10:  
43         printf("Daxamday");  
44         break;  
45     }  
46 }
```

|   | Input | Expected   | Got        |   |
|---|-------|------------|------------|---|
| ✓ | 7     | Kryptonday | Kryptonday | ✓ |
| ✓ | 1     | Monday     | Monday     | ✓ |

Passed all tests! ✓

# Assessment-03-Decision Making and Branching - if, if...else and nested if...else

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◀ Week-03-Decision Making and Branching - if, if...else and nested if...else, if...else if and switch...case ▶ Lab-04-Decision Making and Branching - if...else if and switch...case

-  Admission Eligibility ✓ Done
-  Calculator ✓ Done
-  Finding the Second Largest Element ✓ Done
-  Triangle - Smallest Side ✓ Done
-  Formal and Actual Arguments ✓ Done
-  Local and Global Variables ✓ Done
-  Different categories of Functions ✓ Done

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Assessment-03-Deci  
Making and Branching - if, ... Admission Eligibility Calculator Finding the Second

Calculator

✓ Done



Finding the Second Largest Element

✓ Done



Triangle - Smallest Side

✓ Done



Formal and Actual Arguments

✓ Done



Local and Global Variables

✓ Done



Different categories of Functions

✓ Done

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