KNOWING TWO CENTURIES (200 YEARS) CALENDAR IN YOUR HEAD, EASY STEPS!

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Abstract

This calendar work centered on the provision of day's accuracy in any of the weeks, months and years. It's easier to say the day of any date of a particular year and also how to say the day of any date of any year off-hand without the use of calendar. Following some stipulated guidelines highlighted in the work, it is important to know the day of date in the current year, the difference of the year in search of from the current year; divide result by four which is constant in the work, after which count the days after multiplying the result by two backward or forward as the case maybe to get the actual day. Hence, the process of getting results as presented in this work is basically on the Gregorian calendar system which gives an overview on the calendar system; days, weeks, months, year and occurrence of leap year.

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1. INTRODUCTION

This calendar work is based on the Gregorian calendar system which is mostly used in the world though there are many other calendar system like the **Islamic, Hindu, Japanese, Buddhist calendar etc.**

I believe you also use the Gregorian calendar in your home or have one in your mobile devices.

The Gregorian calendar has 365 days in a year, and 366 days for a leap year which occurs every four (4) years.

The calendar has twelve (12) months of which four (4) months has 30 days (April, June, September and November). Seven (7) months has thirty one (31) days (January, March, May, July, August, October and December) and February has 28 days and 29 days for that of a leap year.

In this work shows expression on how to calculate the day of any date of any year using your head without checking the calendar.

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2. HOW TO CALCULATE THE DAY OF ANY DATE OF A PARTICULAR YEAR.

STEP 1: Know the first day of each month of that particular year.

In these work am using the current year which is 2020. The first day of each month of 2020 can easily be stored in our head without cramming.

YEAR: 2020

NO	MONTHS	1st DAY
1	January	Wednesday
2	February	Saturday
3	March	Sunday
4	April	Wednesday
5	May	Friday
6	June	Monday
7	July	Wednesday
8	August	Saturday
9	September	Tuesday
10	October	Thursday
11	November	Sunday
12	December	Tuesday

Knowing the above we help to perform the day of any date in 2020.

- Days repeat itself on every 8th, 15th, 22nd and 29th. That's multiple of 7 and plus 1 to each.

EAMPLES:

(1) If 1st is a Thursday, 8th will still be a Thursday likewise to 15th and 29th, it will all be on a **Thursday.**

(2) What is the day of the date 23rd August 2020?

SOLUTION:

Recall: 1st of August is a Saturday, 22nd of August is still a Saturday from our work earlier. After 22nd we have 23rd, so after Saturday is a Sunday.

23rd August 2020 Sunday

(3) What will be the day of the date: 13th February 2020?

SOLUTION:

- ✓ First day of the month of February: 1st of February is on a Saturday from previous work.
- ✓ 15th of February is also on a Saturday.
- ✓ Counting backward, if 15th is Saturday then 13th will be on a Thursday.

  13th February 2020 Thursday

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2.1 HOW TO CALCULATE THE DAY OF DATES OF ANY YEAR.

The work on how to calculate that of a particular year will help in that of any year.

- ➢ Calendar of a particular year repeat itself after Twenty eight (28) years, because in those Twenty eight (28) years are Seven (7) leap years which balance the order of the days. This is to establish the fact that after every Twenty Eight (28) years a particular year repeats itself.
- ➢ USING 2020:

2020 – 28 = 1992, so the calendar days of 1992 is the same with that of 2020.

2076

2048

2020

1992

1964

1936

1908

The following years listed above have the same calendar days with 2020 because of 28 years difference.

- If you can know the calendar days of any of the 28 years you will be able to know the rest years with ease.

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EXAMPLES:

(1) What is the day of the date: 3rd July 2011?

SOLUTION:

Step 1: The day of the date of the current year 2020;

3rd July 2020 is on a Friday.

Step 2: Subtract 2011 from the current year you are using. 2020 is used in this work. 2020 – 2011 = 9

Step 3: Divide the result by 4. We must always divide by 4 because of leap year. 9 ÷ 4 = 2 remainder 1.

Step 4: When we divided we got 2, which means we are going to count four times forward after the current day we got earlier.

- The reason we are counting four times forward is because the divided result must always be multiply by 2.

- Counting four times day after Friday: That's, Saturday, Sunday, Monday, Tuesday.
- Tuesday is for the year 2012

Step 5: Because of the remainder 1, we are going to count one day backward (from 2012 to get 2011) after Tuesday which would be Sunday. We got Sunday instead of Monday because of leap year; we have to skip a day.

3rd July 2011 Sunday

(2) What would be the day of the date: 14th September 2004?

SOLUTION:

Step 1: The day of date of the current year;

14th September 2020 is on a Monday.

Step 2: Subtract 2004 from the current year. 2020 – 2004 = 16.

Step 3: Divide the result by 4. We must always divide by 4 because of the leap year. 16 ÷ 4 = 4 remainder 0

Step 4: When we divided we got 4, which means we are going to count eight times days forward after the current day we got earlier.

- The reason we are counting eight times forward is because the divided result must always be multiply by 2.
- Counting eight times day after Monday: Tuesday, Wednesday, Thursday, Friday, Saturday, Sunday, Monday, and Tuesday.

Step 5: There is no remainder so the day is Tuesday.

14th September 2004 Tuesday.

(3) 26th December 1996 will be which day?

SOLUTION:

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Step 1: The day of date of the current year;

26th December 2020 is on a Saturday.

Step 2: In this case we can use 1992 or 2020 to subtract since both year have the same calendar days.

- 26th December 1992 is on a Saturday the same with 2020.
  USING 2020:
  2020 – 1996 = 24

Step 3: Divide the result by 4 always because of leap year. 24 ÷ 4 = 6, no remainder.

Step 4: When we divided we got 6 which means we are going to count 12 times day forward after the current day we got earlier.

- Divided result must always be multiply by 2.
- Counting twelve time days forward after Saturday we are going to have Thursday.

Step 5: There's no remainder so the day is Thursday.

26th December 1996 Thursday

OR

USING 1992:

26th December 1992 is also a Saturday; note that the calendar days are the same with 2020.

Step 1: Subtract 1992 from 1996

1996 – 1992 = 4

Step 2: Divide the result by 4 as usual. 4 ÷ 4 = 1, no remainder.

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Step 3: when we divided we got 1, which means we are going to count two(2) time days backward not forward this time because when we are going up we are counting backward; 1992, 1993, 1994… but when we are going back we are counting forward; 2020, 2019, 2018…

- ❖ Counting two (2) time days backward from Saturday we would have, Friday, Thursday.

Step 4: There's no remainder so the day is Thursday.

26th December 1996 Thursday

(4) What would be the day of the date: 23rd September 1920?

SOLUTION:

Step 1: Note that 1936 and 1908 has the same calendar days with 2020 from our work earlier.

23rd September 1936 is on Wednesday.

Step 2: Subtract 1920 from 1936.

1936 – 1920 = 16

Step 3: Divide the result by 4 as usual. 16 ÷ 4 = 4 no remainder.

Step 4: we got 4 when divided, which means we are going to count eight time days forward after the current day we got earlier.

- ❖ Remember the divided result must always be multiply by 2.
- ❖ Counting eight time days after Wednesday; Thursday, Friday, Saturday, Sunday, Monday, Tuesday, Wednesday, Thursday.

Step 5: There is no remainder so the day is a Thursday.

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23rd September 1920 Thursday

OR

USING 1908:

23rd September 1908 is also a Wednesday. The calendar days are the same with 1908, 1936, 1964, 1992, 2020…

Step 1: Subtract 1908 from 1920.

1920 – 1908 = 12

Step 2: Divide the result by 4.

12 ÷ 4 = 3 no remainder

Step 3: From the division we got 3, which means we are going to count 6 time days backward not forward this time because when the years going up we are counting backward; 1908, 1909, 1910, 1911 …

- Counting 6 times days backward from Wednesday we would have; Tuesday, Monday, Sunday, Saturday, Friday, Thursday.

Step 4: There is no remainder so the day is Thursday.

23rd September 1920 Thursday

(5) What is day is 15th January 1958

SOLUTION:

Step 1: note that 1964 and 1936 has the same calendar days with 2020.

15th January 1964 is on a Wednesday.

Step 2: Subtract 1958 from 1964

1964 – 1958 = 6

Step 3: Divide the result by 4;

6 ÷ 4 = 1 remainder 2

Step 4: We got 1 from our division, which means we are going to count two (2) time days forward after the current day we got earlier.

- Counting two (2) time day after Wednesday; Thursday, Friday.

Step 5: Because of the remainder two (2) we are going to count two days backward after Friday; Thursday, Wednesday.

15th January 1958 Wednesday

OR

USING 1936:

15th January 1936 is also on a Wednesday.

Step 1: Subtract 1936 from 1958;

1958 – 1936 = 22

Step 2: Divide the result by 4,

22 ÷ 4 = 5 remainder 2.

Step 3: We got 5 when divided, which means we are going to count 10 time days backward.

- Counting ten (10) time days backward from Wednesday; Tuesday, Monday, Sunday, Saturday, Friday, Thursday, Wednesday, Tuesday, Monday, Sunday.

Step 4: Because of the remainder two (2) we are going to count two days forward after Sunday; Tuesday, **Wednesday.**

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- We skip a day after Sunday because of interference of leap year in 1956.
- 1956 is a leap year, 15th January 1958 is on Sunday, and the day of the date in 1957 will be on Tuesday not Monday because of a leap year (additional day in February from 28 to 29).

(6) What day is the date 29th May 2033?

SOLUTION:

- The calendar days of 2020, 2048, 2076 are the same.

Step 1: The day of 29th May in 2020 is on Friday.

Step 2: Subtract 2020 from 2033.

2033 – 2020 = 13

Step 3: Divide the result by 4;

13 ÷ 4 = 3 remainder 1.

Step 4: We got 3 from the division, which means we are going to count six (6) times days backward.

- Remember when the years are going upward we are counting backward; 2020, 2021, 2022, 2023.
- Counting six (6) time days backward from Friday; Thursday, Wednesday, Tuesday, Monday, Sunday, Saturday.

Step 5: Because of the remainder 1 we are going to count one day forward after Saturday which would be on a Sunday.

29th May 2033 Sunday.

OR

USING 2048:

Remember 2020 and 2048 has the same calendar days.

Step 1: The day of 29th May 2048 is on a Friday also.

Step 2: Subtract 2033 from 2048;

2048 – 2033 = 15

Step 3: Divide the result by 4

15 ÷ 4 = 3 remainder 3

Step 4: From the division we got 3, which mean we are going to count six (6) time days forward after the current day we got earlier (Friday).

- ❖ Counting six (6) time days after Friday: Saturday, Sunday, Monday, Tuesday, Wednesday, and Thursday.

Step 5: Because of the remainder 3, we are going to count three days backward after Thursday; Tuesday, Monday, and Sunday.

- ➢ We skip Wednesday while counting backward because of the interference of leap year in 2036.

29th May 2033 Sunday.

(7) What day is the date: 15th October 1978?

- ➢ The calendar day of 2020 is the same with that of 1976.

Step 1: 15th October 1976 which is the same with 2020 is Thursday.

Step 2: Subtract 1976 from 1978;

1978 – 1976 = 2

Step 2: No need to divide by 4. We're to count just two days forward to get the actual day of 15th October 1978.

- Two (2) days forward after Thursday: Friday, Saturday.

15th October 1978 Saturday.

3. ALTERNATIVES WAYS TO CALCULATE THE CALENDAR DAYS:

Knowing the days of each decade made it easier to perform the calendar work too. It doesn't mean that one has to crams all the days in each decade, but knowing that of a particular year makes it easier to know other decades.

Remember our work earlier that you have to master the first day of all the months in 2020 which used for this study.

STEP 1: Know the first day of each month of that particular year.

In these work am using the current year which is 2020. The first day of each month of 2020 can easily be stored in our head without cramming.

YEAR: 2020

NO	MONTHS	1st DAY
1	January	Wednesday
2	February	Saturday
3	March	Sunday
4	April	Wednesday
5	May	Friday
6	June	Monday
7	July	Wednesday
8	August	Saturday
9	September	Tuesday

10	October	Thursday
11	November	Sunday
12	December	Tuesday

- Days repeat itself on every 8th, 15th, 22nd and 29th. That's multiple of 7 and plus 1 to each.

3.1 SEQUENTIAL ORDER OF DAYS IN DECADES

Study this pattern below carefully.

Some months are selected to study the sequential order of days in decades, in the table.

L = Stands for ***LEAP YEAR***, while

NL = Stands for ***NOT LEAP YEAR***.

years	Jan.	Feb.	April	Nov.
1910 NL	Sat	Tues	Fri	Tues
1920 L	Thurs	Sun	Thurs	Mon
1930 NL	Wed	Sat	Tues	Sat
1940 L	Mon	Thurs	Mon	Fri
1950 NL	Sun	Wed	Sat	Wed
1960 L	Fri	Mon	Fri	Tues
1970 NL	Thurs	Sun	Wed	Sun
1980 L	Tues	Fri	Tues	Sat
1990 NL	Mon	Thurs	Sun	Thurs
2000 L	Sat	Tues	Sat	Wed
2010 NL	Fri	Mon	Thurs	Mon
2020 L	Wed	Sat	Wed	Sun
2030 NL	Tues	Fri	Mon	Fri
2040 L	Sun	Wed	Sun	Thurs
2050 NL	Sat	Tue	Fri	Tues
2060 L	Thurs	Sun	Thurs	Mon
2070 NL	Wed	Sat	Tues	Sat
2080 L	Mon	Thurs	Mon	Sat

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2090 NL	Sun	Wed	Sat	Fri
2100 NL	Fri	Mon	Thurs	Mon

Study the sequence carefully from 1910 to 2100, you will notice when ascending for the months of January and February (1910, 1920, 1930 …) we count the next day after the other when is not leap year, but skip a day to get the other when is leap year.

When descending (2100, 2080, 2070 …) we count the next day after the other when is not leap year, but skip a day to get the other when is a leap year.

For March to December

We count the next day after the other when is leap year, but skip a day to get the other when is not leap year.

When descending (2100, 2080, 2070 …) we count the next day after the other when is a leap year, but skip a day to get the other when is not leap year.

What causes the splitting between (January, February) and (March to December) is the effect of leap years which makes January and February not to correspond with March – Decembers.

So, this can easily be stored in the head without much stress. Just know the calendar days of 2020 and remember the sequence in the table we have created and get your work done.

EXAMPLES:

(1) What day is the date: 23rd January 2052?

SOLUTION:

Step 1: Remember the sequence in the table, no need to cram but just understand the sequential order of the days in decades.

23rd January 2020 is on a Thursday.

Step 2: If 23rd January 2020 is on a Thursday, then in 2050 it will be on a Monday.

Step 3: So, we would count two days forward to get 2052 which would be on a **Saturday**.

(2) What day will be the date: 3rd July 1970?

Step 1: 3rd July 2020 is on a Friday.

Step 2: If 3rd July 2020 is on a Friday, 1970 will be on a **Saturday**. Just understand the sequential order, that's makes the wok much easier. Don't cram!

(3) What day will be the date: 11th September 1908?

Step 1: 11th September 2020 is on a Friday.

Step 2: Following the sequential order, 11th September 1910 will be on Monday.

Step 3: So will would count two days backward to get that of 1908 which is on a **Friday**.

4. CONCLUSION

Knowing two centuries (200 years) calendar days in your head are demonstrated with some easy steps mathematically, which embraces the Gregorian calendar system with respect days, weeks, months, years, and occurrence of leap year. The calendar work makes it easier to say the day of any date of any year off-hand. The

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work also provided alternative method for easier assimilation and ability to perform the calendar work easier off-hand.

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