



Impressive Mathematics



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Introduction

Contemporary life demands the requirement to have good mathematical knowledge. Mathematics is important for life and support all-round personal development. Mathematics significantly influences pupils' and students' education both in a special branch and in term of moral education.

Basing on calendar calculations we are able to know the day of a specific date, month and year. There are several steps to follow so as you can determine it. We develop pupils' interest in mathematics with the help of quality education.

The type of mathematics taught in schools is irrelevant to students' lives and not based in 'real life'. Project report outlines the findings that emerged from analyzing data gathered from 10 participants who were asked to record the application of mathematics in their everyday. Firstly, they were asked to describe three of their most typical types of mathematics calculations. Despite the benefits and disadvantages of using technology in mathematics contexts, technology has become an incidental aspect of most people's everyday lives. This development is reflected in the rationale for the new Tanzanian mathematics curriculum which cites the use of technology as being integral to mathematics:

Mathematical ideas have evolved across all cultures over thousands of years, and are constantly developing. Digital technologies are facilitating this expansion of ideas and providing access to new tools for continuing mathematical exploration and invention. The application of learned mathematics to everyday life has also become more topical; teachers are encouraged to teach mathematics in a way that is relevant, meaningful and authentic that's why we have decided to come up with this idea of using knowledge of mathematics in calculating date, years and knowing different events

Method

On January 2022 we have been given a task to prepare a report which for graduation which happened last year 2021. It was a little bit tiresome to trace all events which happened last and then to know exactly day of the event. Due to that we decided to think critically what was the best way to solve such challenge that happened and then asked ourselves which day of the week?

MONTH	CODE
JANUARY	0
FEBRUARY	3
MARCH	3
APRIL	6
MAY	1
JUNE	4
JULY	6
AUGUST	2
SEPTEMBER	5
OCTOBER	0
NOVEMBER	3
DECEMBER	5

CENTURY	CODES
1700-1799	4
1800-1899	2
1900-1999	0
2000-2099	6
2100-2099	4
2200-2299	2

DAYS	CODES
SUNDAY	0
MONDAY	1
TUESDAY	2
WEDNESDAY	3
THURSDAY	4
FRIDAY	5
SATURDAY	6

Because the cyclic nature of dates, modular arithmetic is particularly suitable for calendrical calculations. Here we will work out one of the most such fundamental calculations, namely, to find out on which day of the week fall a particular date, like your birthday.

The days of the week repeat themselves in periods of 7, so instead of the usual names we can give each a number:

Sunday = 0, Monday = 1, Tuesday = 2, Wednesday = 3, Thursday = 4, Friday = 5, Saturday = 6.

Results

Example: What is the day on 06/07/ 2022

1. Take the last two digits of the year = 22
2. Divide the last two digits of the year = $22/4=05$
3. Take the month code = 06
4. Take the century code = 06
5. Add the date = 06
6. Add together and divide by 7 = $45/7=6$ remain 3
7. Check the remainder in days code = WEDNESDAY

NOTE: For leap years minus one on month of February.



Conclusion

Based on our observation as student there was a challenge on determining day, without using a calendar. Of which many of the student are using calendar to know the day, but for we have come up with the best method of determine the day.

References

Invitation to Number Theory, by Oystein Ore, The Mathematical Association of America, 1967
 Calendrical Calculations, by Nachum Dershowitz and Edward Reingold, Cambridge University Press, 2008.

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