Calendar Programs

CODE:

from datetime import datetime

import calendar

import numpy as np

# Current time and date

now = datetime.now()

print("Current time:", now.strftime("%H:%M:%S"))

print("Current date:", now.strftime("%Y-%m-%d"))

# Entire month in a year

y\_entire = int(input("Enter the Year for the entire month: "))

print(f"Calendar for the year {y\_entire}:")

print(calendar.prcal(y\_entire))

# Particular month in a year

y\_particular = int(input("Enter the Year for a particular month: "))

m\_particular = int(input("Enter the month: "))

print(f"Calendar for {calendar.month\_name[m\_particular]} {y\_particular}:")

print(calendar.month(y\_particular, m\_particular))

# Program to find the number of weekdays in (mm/yyyy)

start\_date\_str = input("Enter the start date (yyyy-mm): ")

end\_date\_str = input("Enter the end date (yyyy-mm): ")

weekday\_count = np.busday\_count(start\_date\_str, end\_date\_str)

print(f"Number of weekdays between {start\_date\_str} and {end\_date\_str}: {weekday\_count}")

# Program to find the number of Sundays in (mm/yyyy)

start\_date\_str = input("Enter the start date (yyyy-mm): ")

end\_date\_str = input("Enter the end date (yyyy-mm): ")

sunday\_count = np.busday\_count(start\_date\_str, end\_date\_str, weekmask='Sun')

print(f"Number of Sundays between {start\_date\_str} and {end\_date\_str}: {sunday\_count}")

# Getting date of first Monday in a given month and year

year\_month\_str = input("Enter the year and month (yyyy-mm): ")

first\_monday\_date = np.busday\_offset(year\_month\_str, 0, roll='forward', weekmask='Mon')

print(f"The date of the first Monday in {year\_month\_str}: {first\_monday\_date}")

OUTPUT:

Current time: 03:05:14

Current date: 2024-01-27

Enter the Year for the entire month: 2020

Calendar for the year 2020:

2020

January February March

Mo Tu We Th Fr Sa Su Mo Tu We Th Fr Sa Su Mo Tu We Th Fr Sa Su

1 2 3 4 5 1 2 1

6 7 8 9 10 11 12 3 4 5 6 7 8 9 2 3 4 5 6 7 8

13 14 15 16 17 18 19 10 11 12 13 14 15 16 9 10 11 12 13 14 15

20 21 22 23 24 25 26 17 18 19 20 21 22 23 16 17 18 19 20 21 22

27 28 29 30 31 24 25 26 27 28 29 23 24 25 26 27 28 29

30 31

April May June

Mo Tu We Th Fr Sa Su Mo Tu We Th Fr Sa Su Mo Tu We Th Fr Sa Su

1 2 3 4 5 1 2 3 1 2 3 4 5 6 7

6 7 8 9 10 11 12 4 5 6 7 8 9 10 8 9 10 11 12 13 14

13 14 15 16 17 18 19 11 12 13 14 15 16 17 15 16 17 18 19 20 21

20 21 22 23 24 25 26 18 19 20 21 22 23 24 22 23 24 25 26 27 28

27 28 29 30 25 26 27 28 29 30 31 29 30

July August September

Mo Tu We Th Fr Sa Su Mo Tu We Th Fr Sa Su Mo Tu We Th Fr Sa Su

1 2 3 4 5 1 2 1 2 3 4 5 6

6 7 8 9 10 11 12 3 4 5 6 7 8 9 7 8 9 10 11 12 13

13 14 15 16 17 18 19 10 11 12 13 14 15 16 14 15 16 17 18 19 20

20 21 22 23 24 25 26 17 18 19 20 21 22 23 21 22 23 24 25 26 27

27 28 29 30 31 24 25 26 27 28 29 30 28 29 30

31

October November December

Mo Tu We Th Fr Sa Su Mo Tu We Th Fr Sa Su Mo Tu We Th Fr Sa Su

1 2 3 4 1 1 2 3 4 5 6

5 6 7 8 9 10 11 2 3 4 5 6 7 8 7 8 9 10 11 12 13

12 13 14 15 16 17 18 9 10 11 12 13 14 15 14 15 16 17 18 19 20

19 20 21 22 23 24 25 16 17 18 19 20 21 22 21 22 23 24 25 26 27

26 27 28 29 30 31 23 24 25 26 27 28 29 28 29 30 31

30

None

Enter the Year for a particular month:

1. CURRENT TIME AND DATE

CODE:

# Current time

from datetime import datetime

now = datetime.now()

print(now)

# Current date

from datetime import datetime

now = datetime.today()

print(now)

OUTPUT:

2024-01-27 03:08:43.633355

2024-01-27 03:08:43.633431

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1. ENTIRE MONTH IN A YEAR

CODE:

# Entire month in a year

import calendar

y = int(input("Enter the Year :"))

print(calendar.prcal(y))

OUTPUT:

Enter the Year :2020

2020

January February March

Mo Tu We Th Fr Sa Su Mo Tu We Th Fr Sa Su Mo Tu We Th Fr Sa Su

1 2 3 4 5 1 2 1

6 7 8 9 10 11 12 3 4 5 6 7 8 9 2 3 4 5 6 7 8

13 14 15 16 17 18 19 10 11 12 13 14 15 16 9 10 11 12 13 14 15

20 21 22 23 24 25 26 17 18 19 20 21 22 23 16 17 18 19 20 21 22

27 28 29 30 31 24 25 26 27 28 29 23 24 25 26 27 28 29

30 31

April May June

Mo Tu We Th Fr Sa Su Mo Tu We Th Fr Sa Su Mo Tu We Th Fr Sa Su

1 2 3 4 5 1 2 3 1 2 3 4 5 6 7

6 7 8 9 10 11 12 4 5 6 7 8 9 10 8 9 10 11 12 13 14

13 14 15 16 17 18 19 11 12 13 14 15 16 17 15 16 17 18 19 20 21

20 21 22 23 24 25 26 18 19 20 21 22 23 24 22 23 24 25 26 27 28

27 28 29 30 25 26 27 28 29 30 31 29 30

July August September

Mo Tu We Th Fr Sa Su Mo Tu We Th Fr Sa Su Mo Tu We Th Fr Sa Su

1 2 3 4 5 1 2 1 2 3 4 5 6

6 7 8 9 10 11 12 3 4 5 6 7 8 9 7 8 9 10 11 12 13

13 14 15 16 17 18 19 10 11 12 13 14 15 16 14 15 16 17 18 19 20

20 21 22 23 24 25 26 17 18 19 20 21 22 23 21 22 23 24 25 26 27

27 28 29 30 31 24 25 26 27 28 29 30 28 29 30

31

October November December

Mo Tu We Th Fr Sa Su Mo Tu We Th Fr Sa Su Mo Tu We Th Fr Sa Su

1 2 3 4 1 1 2 3 4 5 6

5 6 7 8 9 10 11 2 3 4 5 6 7 8 7 8 9 10 11 12 13

12 13 14 15 16 17 18 9 10 11 12 13 14 15 14 15 16 17 18 19 20

19 20 21 22 23 24 25 16 17 18 19 20 21 22 21 22 23 24 25 26 27

26 27 28 29 30 31 23 24 25 26 27 28 29 28 29 30 31

30

None

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1. PARTICULAR MONTH IN A YEAR

CODE:

# Particular month in a year

import calendar

y = int(input("Enter the Year :"))

m = int(input("Enter the month :"))

print(calendar.month(y, m))

OUTPUT:

Enter the Year :2020

Enter the month :06

June 2020

Mo Tu We Th Fr Sa Su

1 2 3 4 5 6 7

8 9 10 11 12 13 14

15 16 17 18 19 20 21

22 23 24 25 26 27 28

29 30

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1. NUMBER OF WEEKDAYS IN A MONTH/YEAR

CODE:

# Program to find the number of weekdays in (mm/yyyy)

import numpy as np

# Number of weekdays in March 2017

print("Number of weekdays in March 2017:", np.busday\_count('2017-03', '2017-04'))

# Number of Sundays in Nov 2020

print("Number of Sundays in November 2020:", np.busday\_count('2020-11', '2020-12', weekmask='Sun'))

OUTPUT:

Number of weekdays in March 2017: 23

Number of Sundays in November 2020: 5

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