

Write a program that converts a given Gregorian calendar date to the corresponding Julian date.

Step 1: Enter the Gregorian calendar date.

**YYYY.MM.DD = 1877.08.11**

Step 2: Define the following integral variables.

YYYY := 1985

MM := 2

DD := 17.25

Step 3: Adjust month if January or February.

MM = 2

YYYY = 1985

Month ← MM + 13 if MM < 3

Year ← YYYY - 1 if MM < 3

Month := ■

Year := ■

Step 4: Compute the following quantities.

$$A := \text{floor}\left(\frac{YYYY}{100}\right) = 19$$

$$B := \text{floor}\left(\frac{A}{4}\right) = 4$$

$$C := 2 - A + B = -13$$

$$E := \text{floor}[365.25 \cdot (YYYY + 4716)] = 2447540$$

$$F := \text{floor}[30.600 \cdot (MM + 1)] = 91$$

Step 5: Evaluate the Julian Date.

$$JD := C + DD + E + F - 1524.5 = 2446110.75$$