**Q. Time in Heaven**

In the usual time-system, we have two time-formats: 24-hour format and the 12-hour format. 08:00:00 (hours:minutes:seconds) in the 24-hour format is written as 8:00:00 A.M in the 12-hour format. 17:25:32 in the 24-hour format is written as 05:25:32 P.M. 00:00:00 in the 24-hour format is written as 12:00:00 midnight. 12:00:00 in the 24-hour format is referred as 12:00:00 noon.

In a place called `Heaven’, the people follow an eight-hour format.

(i) 00:00:00 in the 24-hour format is written as 08:00:00 midnight.

(ii) Time in the range, from 00:00:01 hours to 07:59:59 in the 24-hour format is written as the same time with a suffix A.M. For ex: 07:00:10 in the 24-hour format is written as 07:00:10 A.M. in the 8-hour format.

(iii) 08:00:00 in the 24-hour format is written as 08:00:00 midmorning.

(iv) Time in the range, from 08:00:01 to 15:59:59, in the 24-hour format is written as the time in the range, from 00:00:01 to 07:59:59, with a suffix B.M. For ex., 09:11:13 in the 24-hour format is written as 01:11:13 B.M.

(v) 16:00:00 in the 24-hour format is written as 08:00:00 midevening.

(vi)Time in the range, from 16:00:01 to 23:59:59 in the 24-hour format is written as the time in the range from 00:00:01 to 07:59:59, with a suffix C.M. For e.g., 17:59:59 in 24-hour format is written as 01:59:59 C.M

Given the time in the 12-hour format, write an algorithm and the subsequent code to convert the given time into the time in `Heaven’ (i.e., in to an 8-hour format)

Input format:

Time in the 12-hour format, hh:mm:ss followed by A.M or P.M or midnight

Output format:

Time in the 8-hour format, hh:mm:ss followed by A.M or B.M or C.M or midnight or midmorning

Illustration:

Input

12:00:00 midnight

Output

08:00:00 midnight

Input

02:00:11 P.M

Output

06:00:11 B.M

Python Program

time\_12 = input()  
time\_24 = **""**time\_8 = **""***# 12-hour to 24-hour conversion*if time\_12[8:] == **" A.M"**:  
 if time\_12[0:2] == **"12"**:  
 time\_24 = **"00"** + time\_12[2:8]  
 else:  
 time\_24 = time\_12[0:8]  
elif time\_12[8:] == **" P.M"**:  
 if time\_12[0:2] == **"12"**:  
 time\_24 = time\_12[0:8]  
 else:  
 time\_24 = str(int(time\_12[0:2])+12) + time\_12[2:8]  
elif time\_12 == **"12:00:00 midnight"**:  
 time\_24 = **"00:00:00"***# 24-hour to 8-hour conversion hh:mm:ss*if time\_24 == **"00:00:00"**:  
 time\_8 = **"08:00:00 midnight"**elif 0 <= int(time\_24[0:2]) <= 7:  
 time\_8 = time\_24 + **" A.M"**elif time\_24 == **"08:00:00"**:  
 time\_8 = **"08:00:00 midmorning"**elif 8 <= int(time\_24[0:2]) <= 15:  
 time\_8 = **"0"** + str(int(time\_12[0:2])-8) + time\_24[2:8] + **" B.M"**elif time\_24 == **"16:00:00"**:  
 time\_8 = **"08:00:00 midevening"**elif 16 <= int(time\_24[0:2]) <= 23:  
 time\_8 = **"0"** + str(int(time\_24[0:2])-16) + time\_24[2:8] + **" C.M"**print(time\_8)