

IUBAT NCPC 2018 MOCK

Finished

THE CONTEST HAS ENDED.

C. Movie Show

Score: 1

CPU: 2s

Memory: 1024MB

You are given a list of movie titles to choose from to do a movie show at your school for a fund raiser. The movies you can pick are classified into four different genres and they have a set run time, as well. You were told that you have to finish the movie show within a specific amount of time. Now all you need to do is to pick four movies, one from each genre so that you can run the show within the stipulated time.

Of course, there can be many valid selection possibilities. You'll have to ensure that you pick a selection that maximizes the total run time of the show. Even then there could be many different valid selections that equal the maximum possible run time. Any of those would do.

Input

The input description for the problem will start with **T** ($1 < T \leq 100$) – the number of test cases. Then **T** test cases will follow. Each test case will start with the value of total duration of the show in minutes, **D** ($0 < D < 2000$). The next line will give you **N** ($3 < N < 41$), the number of movies to choose from. Each of the next **N** lines will print the information for a movie. Each movie description starts with the title of the movie (a sequence of letters: only **A~Z**, **a~z**, **0~9** and **underscores** are allowed), followed by its genre (any one of **Action**, **Comedy**, **Horror** or **Animation**), followed by its run time in minutes, **R** ($0 < R < 300$). The title of each movie will contain at most **40** letters. You can safely assume that each line of a movie description describes a different movie (even if the same movie name was mentioned before) and there will be at least one Action, one Comedy, one Horror and one Animation movie in the list.

Output

Output for each test case will start with the movie show label (starting with **1**, and formatted as shown in sample output.) The label will be followed by the shows total run time without exceeding the maximum allowed time. When such a selection is not possible, you need to print “Movie show canceled!” without the quotes.

Sample

Input	Output
3	Case 1: 610
610	Case 2: Movie show canceled!
10	Case 3: 580
Most_Welcome Comedy 240	
Most_Welcome_2 Comedy 180	
Mission_Impossible Action 100	
Frozen Animation 120	
Ice_Age Animation 100	
Mama Horror 200	
I_Dont_Care Comedy 200	
Jhole_Mon_Gacher_Dale Action 110	
Dhil_Mari_Tor_Tiner_Chale Action 210	
Anti_Ami_Khabo_Pere Animation 240	
560	
10	
Most_Welcome Comedy 240	
Most_Welcome_2 Comedy 180	
Mission_Impossible Action 100	
Frozen Animation 120	
Ice_Age Animation 100	
Mama Horror 200	
I_Dont_Care Comedy 200	
Jhole_Mon_Gacher_Dale Action 110	
Dhil_Mari_Tor_Tiner_Chale Action 210	
Anti_Ami_Khabo_Pere Animation 240	
580	
10	
Most_Welcome Comedy 240	
Most_Welcome_2 Comedy 180	
Mission_Impossible Action 100	
Frozen Animation 120	
Ice_Age Animation 100	
Mama Horror 200	
I_Dont_Care Comedy 200	
Jhole_Mon_Gacher_Dale Action 110	
Dhil_Mari_Tor_Tiner_Chale Action 210	
Anti_Ami_Khabo_Pere Animation 240	

