

You Can Never Know What Helps You When!

For your October, 29 holiday, you decided to make a difference and go to the Nummamorous Island, a very small island on Pacific. While you were walking in the jungle park of the island, a man came running and killed a woman with his knife, then ran away. There was no one other than you so you tried to help the woman to stop her bleeding. Whatever you did was useless and the woman died just when the police came in and so they arrested you for the murder as there was no one other than you and you have a bloody knife in your hand which was used to kill the woman.

Although all clues are against you, there is some good (!) news. All judges and jury in the Nummamorous Island can be bribed by paying the required amount. Because they love money more than anything else and can do anything for money. There are two judges on the island:

Miscreant and Villain.

The courtyard of The Nummamorous Island has the following rules:

Rule 1. If the judge of your case says "the accused is innocent," nobody can make an objection unless more than 90% of the jury says you are guilty. If more than 90% of the jury says you are guilty, then you are jailed.

Rule 2. If more than %40 and less than 80% of the jury say "the accused is innocent", this time the judge decides whether to acquit you or to put you in prison.

Rule 3. If at least 80% of the jury say "the accused is innocent" than the judge can do nothing but acquits you.

Otherwise, the court is postponed one year, which is inacceptable and intolerable for you.

The jury and the judges are under the command of global barons and thus, make decision according to the money they gain. They consider no rights. Each Judge wants different amounts for different situations:

*a. The judge wants some amount of money, called **ultimate freedom fee** to say "the accused is innocent." Then whatever the jury say, you get acquitted according to Rule 1.*

*b. If more than %40 of the jury say "the accused is innocent", The judge wants some amount of money, called **freedom with jury fee**, to acquit you. But this time you need to convince more than 40% of the jury, too.*

Each judge wants different amounts, shown in the table below:

	Miscreant	Villain
<i>a. Ultimate Freedom Fee</i>	8000NL	6000NL
<i>b. Freedom with Jury Fee</i>	3000NL	4000NL

c. Each jury member wants 200 NL (Nummamorous Liras), called JURY FEE, to say "the accused is innocent".

There is also a tradition at Nummamorous Island: They give the prisoner two choices including the number of people in the jury and the name of the judge. And then they leave you alone just for a couple of minutes. Then they want you to choose one of the choices for a fair trial. :)

For example the choices could be like that:

1. The judge is Villain and the number of people in the jury is 36.
2. The judge is Miscreant and the number of people in the jury is 40.

Now, you are in the jail. As the jail is full of poor innocent people who could not pay their fees, there was no place for you other than the computer room in the jail. They think that you cannot use this computer because it has a MIPS processor and has no compiler either. But they miss one thing: you have taken CSE 331 at your last semester! :D

Write down an assembly code so that you can choose the best choice. And, by giving the minimum fee, you can take your freedom again. Your code will ask the following:

1. The name of the judge
2. The number of people in the jury

Then it will show you the way you can get your freedom with a minimum fee. For instance a sample run of the program should be like that (Inputs from the user are shown by red):

```
----- A NEW COURT -----
1. The name of the judge: Villain
2. The number of people in the jury: 36
Give JURY FEE to 29 people and no fee to the judge. (Rule 3)
You have to spend 200 x 29 = 5800NL at least.
----- A NEW COURT -----
1. The name of the judge: MISCREANT
2. The number of people in the jury: 20
Give JURY FEE to 17 people and FREEDOM WITH JURY FEE to the judge.
(Rule 2)
You have to spend 3400 + 3000 = 6400NL at least.
----- A NEW COURT -----
1. The name of the judge: Villan
THERE IS NO JUDGE NAMED AS Villan!!!
```

Project MUSTs

1. You must use at least two subroutines and at least two loops.
2. You must comment each line of assembly code as we talked in the class.
3. Your code should run exactly in the same way with the example run above.
4. You must follow all contract rules (protocol). For instance, t registers are caller saved.
5. This project is not a group project. Copying or “cooperation” is definitely prohibited and will be punished by -100.
6. Be sure that your code runs on QtSpim. The codes that do not even run lose lots of grade points.
7. Submit your resultant assembly code to Moodle as one file with .s before the due date. The file should be named as “studentNumber_Name-Surname.s”.
8. The due date is until 17:00 of November 5, Thursday. No late submissions.
9. The codes that are not executing at all will get 0pts.