



The modules are described below:



```
Main Module M0
  call input module M1(FLAG) to obtain flag
  call processing module M2(FLAG, ARRAY)
  call output module M3(ARRAY) to display ARRAY

Input module M1(FLAG)
  Prompt user to input a number and store it in FLAG

Process module M2(FLAG, ARRAY)
  common variable ARRAY
  switch FLAG
  case 1: call module M21
  case 2: call module M22

Submodule M21
  common variable ARRAY
  sort up 100 random numbers and store results in ARRAY

Submodule M22
  common variable ARRAY
  sort down 50 random numbers and store results in ARRAY

Output module M3(ARRAY)
  Display output ARRAY
```

(b) What is the coupling between M0 and M2?

Answer: control coupling because the FLAG is used to control M2, and stamp coupling because the data structure ARRAY is passed between M0 and M2. Since control coupling is stronger the correct answer is control coupling. If the answer is stamp coupling student gets 0.5 pt.

(c) What is the coupling between M2 and M21?

Answer: common coupling because M2 and M21 share common ARRAY