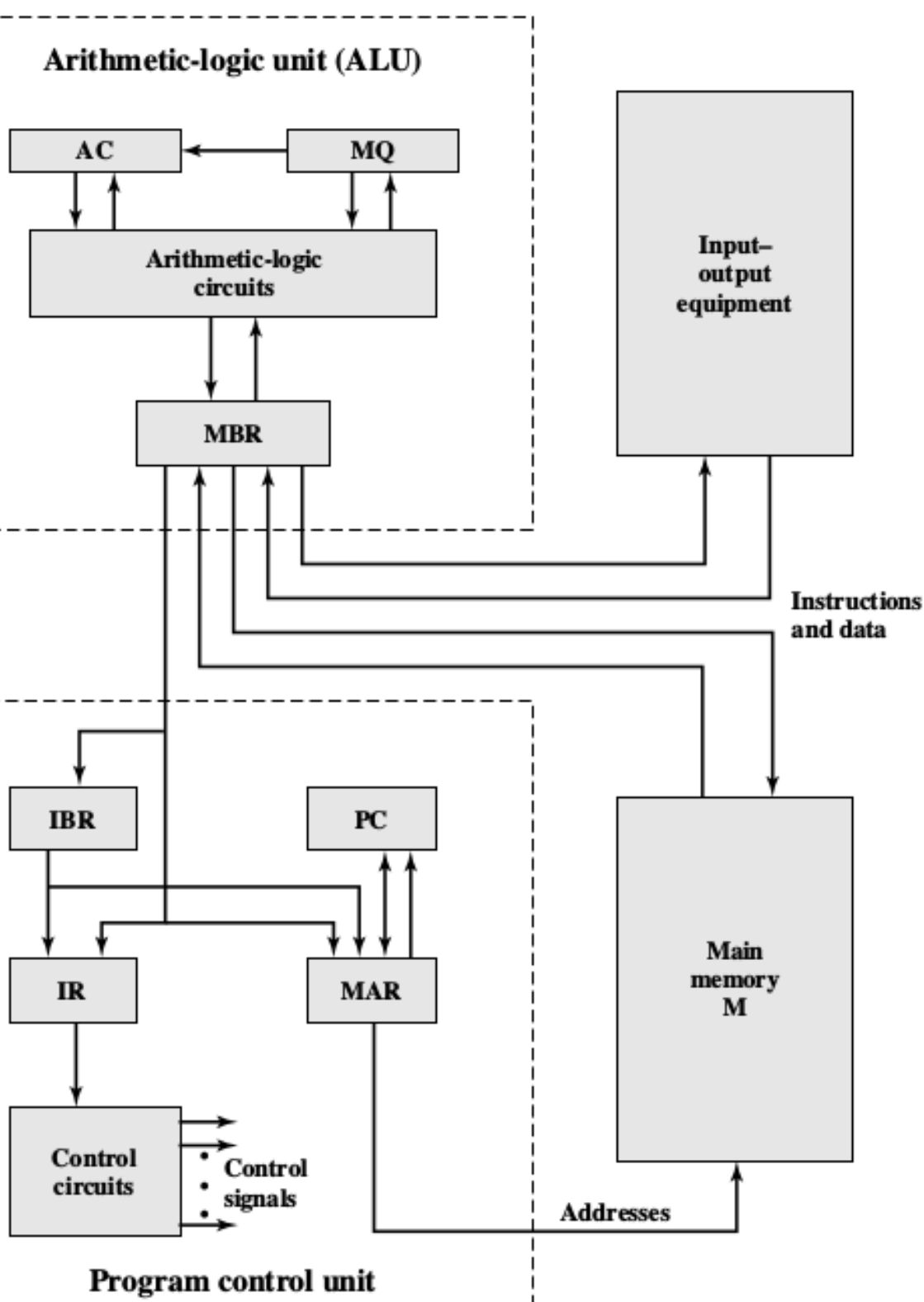


Assignment 1

- Can be done in groups of max 2 students
- You can choose to do the design in any language you wish, C, C++, python, Verilog etc
- Submit your readme, codes, results (result file) on LMS.
- Only one member of the group should submit the code. Rename the filename of your code to <roll_numbers>_filename.< >
- We will conduct a demo session to explain your code after submission
- All codes will run through a plagiarism check. Files found similar across groups will get a 0 for the assignment. Repeat offence will attract Grade penalty on the overall grade
- Submit by May 9, 2021, 11:59pm
- Marks: 30



Implement the IAS computer (fetch the instruction, decode and execute)

Implement any assembly program of your choice to test the design

You can test more than one program if you wish to do more rigorous testing of the design

No need to implement I/O.

Memory implementation is required

- Indicate the C version of the program that you are implementing
- Write the machine code for the IAS machine, save it in memory
The program can be small, but it has to perform the desired operation on your design.
Example code that you can implement is shown below. You could also try factorial, matrix multiplication and so on.
- You are encouraged to come up with the program on your own
- Store the program in memory, implement instruction fetch, decode and execute

```
main () {  
int a=1, b=15, c;  
if (a == b)  
c = a - b;  
else  
c = a + b;  
}
```