



CPU class

| cpu   |
|---|
| pc<br>gpr0<br>gpr1<br>gpr2<br>gpr3<br>ixr1<br>ixr2<br>ixr3<br>mar<br>mbr<br>mfr<br>ir<br>memory<br>is_loaded<br>total_program_lines<br>current_execution_line |
| load_program(filename)<br>step_through()<br>run_program()   |

memory  
class

| memory  |
|---|
| size<br>mem   |
| get_memory_size()<br>get_memory_value(word)<br>store_memory_value(word,value)<br>reste_memory() |

instruction  
class

| instruction   |
|---|
| instruction_value<br>opcode<br>index_gpr<br>index_ixr<br>indirect_addressing<br>address   |
| split_instruction()<br>get_opcode ()<br>get_index_gpr ()<br>get_index_ixr( )<br>get_indirect_addressing ()<br>get_address ()<br>load ( ixr, marReg,mem) |

ALU class

| ALU                                       |
|---|
| irr<br>value<br>cc                        |
| reset<br>arithmetic_cal(operation, o1,o2) |

GUI class

| gui_grid  |
|---|
| cpu   |
| UploadFile()<br>bitToCheckbox()<br>ld_gpr0<br>ld_gpr1()<br>ld_gpr2()<br>ld_ixr1()<br>ld_ixr2()<br>ld_ixr3()<br>mar_pc_Load(arr)<br>mbrLoad()<br>stepCheck() |