```
ColorConfig
| - filename: str
| - primary: str
| - off: str
| + init (filename="colors.cfg") |
| + load_colors(): void |
     | used by
     UVSimGUI
| - root: Tk
| - sim: UVSim
| - load: Load_Program
| - accumulator_var: StringVar |
| - run_button: Button
| - memory_entries: list[Entry]|
| - output_lines: list[str]|
| - colors: ColorConfig
| + __init__(root: Tk) |
| + build_widgets(): void |
| + load_file(): void
| + save_file(): void
| + run_program(): void |
| + step_through_program(): void |
| + show_read_popup(operand: int): int |
| + update_memory_display(): void |
| + update_output(): void |
| + clear_output(): void |
     \blacktriangle
   uses
                                                                    uses
                                               has-a
     1
  UVSim
                                          | Load_Program |
                                                                         Convert
|-cpu:CPU |
                                          | - memory: Memory|
                                                                  | + convert_to_int(word): int or False |
| - memory: Memory|
                                            ----+
                                          | + __init__() |
| + __init__(memory: Memory = None) |
```

```
| + run(): void |
                                      | + load program(filename: str): void |
+----+
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   has-a
   CPU
+----+
| - accumulator: int |
| - program_counter: int |
| - halted: bool
+----+
| + __init__()
| + execute(instruction: int, memory: Memory): void |
+----+
   \blacktriangle
  uses
+----+
| Memory |
+----+
| - memory: list[int]
| - read_callback: Optional[Callable] |
| - waiting_for_input: bool |
+----+
| + __init__()
| + write(address: int, value: int): void |
| + read(address: int): int |
+----+
    | called by
+----+
 main.py |
+----+
| + main(): void |
+----+
```