Lab Task 2.2: Identifying Components of Assembly Language

List the following in the RISC-V (RV32) Assembly of "hello.c" generated in Task 2.1.
1. Unique Assembler Directives
2. Unique Base Instructions
3. Unique Labels
4. Unique Pseudoinstruction and their corresponding base instructions.
You are required to identify unique items, for example if there are multiple add instructions you may list them only once in your answers.

1. Unique Assembler Directives:

- `.file "hello.c"`
- `.option nopic`
- `.attribute arch, "rv32i2p1"`
- `.attribute unaligned_access, 0`
- `.attribute stack_align, 16`
- `.text`
- `.section .rodata`
- `.align 2`
- `.string "Name"`
- `.globl main`
- `.type main, @function`
- `.cfi_startproc`
- `.cfi_def_cfa_offset 16`
- `.cfi_offset 1, -4`
- `.cfi_offset 8, -8`
- `.cfi_def_cfa 8, 0`
- `.cfi_restore 1`
- `.cfi_restore 8`
- `.cfi_def_cfa 2, 16`
- `.cfi_def_cfa_offset 0`
- `.cfi_endproc`
- `.size main, .-main`
- `.ident "GCC: () 14.2.0"`
- `.section .note.GNU-stack,"",@progbits`

2. Unique Base Instructions:

- `addi`
- `sw`
- `lui`
- `call`
- `li`
- `mv`
- `lw`
- `jr`

3. Unique Labels:

- `.LC0`
- `main`
- `.LFB0`
- `.LFE0`

4. Unique Pseudoinstructions and Corresponding Base Instructions:

- **`call printf`**
  Written in base instructions:
  - `auipc`
  - `jalr`
- **`li a5, 0`**
  Written in base instructions:
  - `addi a5, zero, 0`
- **`mv a0, a5`**
  Written in base instructions:
  - `addi a0, a5, 0`

Lab Task 2.3:

```
 4e690 b3876741 13070402 18439396 27000d8b  ..gA.....C..'...
 4e6a0 558f3a86 2fa6c408 318f0d8b 11ef03a7  U.:./...1.......
 4e6b0 8b01e28a ba9723ac fb00e38c 07ea624a  ......#.......bJ
 4e6c0 424bb24b 224c39b5 93e62600 13070402  BK.K"L9...&.....
 4e6d0 14c3f1bf 93076501 dd9be382 07ee52cc  ......e.......R.
 4e6e0 5ac85ec6 62c41705 00001305 2521ef60  Z.^.b.......%!.`
 4e6f0 6cc40948 93450908 7d73555e f15e6385  l..H.E..}sU^.^c.
 4e700 07039377 c6ff93e7 27002fa7 04146315  ...w....'./...c.
 4e710 c700afa6 f418f5fa b306c740 93773700  ...........@.w7.
 4e720 3a8699ee e38707d8 719a1366 26009308  :.......q..f&...
 4e730 601a2685 81467300 00006366 a3009040  `.&..Fs...cf...@
 4e740 93773600 6dbfe30c c5ffe30a d5ff4ece  .w6.m.........N.
 4e750 52cc56ca 5ac85ec6 62c466c2 69b79307  R.V.Z.^.b.f.i...
 4e760 6501dd9b adff45bb                    e.....E.

Contents of section .rodata:
 4e770 01000200 00000000 86000000 4e656861  ............Neha
 4e780 6c20416c 73756861 6962616e 69000000  l Alsuhaibani...
 4e790 556e6578 70656374 65642072 656c6f63  Unexpected reloc
 4e7a0 20747970 6520696e 20737461 74696320   type in static
 4e7b0 62696e61 72792e0a 00000000 46617461  binary......Fata
 4e7c0 6c20676c 69626320 6572726f 723a2043  l glibc error: C
 4e7d0 616e6e6f 7420616c 6c6f6361 74652054  annot allocate T
 4e7e0 4c532062 6c6f636b 0a000000 6378615f  LS block....cxa_
 4e7f0 61746578 69742e63 00000000 6c20213d  atexit.c....l !=
 4e800 204e554c 4c000000 66756e63 20213d20   NULL...func !=
 4e810 4e554c4c 00000000 5f5f6e65 775f6578  NULL...__new_ex
 4e820 6974666e 00000000 5f5f696e 7465726e  itfn...__intern
 4e830 616c5f61 74657869 74000000 286e696c  al_atexit...(nil
 4e840 29000000 76667072 696e7466 2d696e74  )...vfprintf-int
 4e850 65726e61 6c2e6300 286d6f64 655f666c  ernal.c.(mode_fl
 4e860 61677320 26205052 494e5446 5f464f52  ags & PRINTF_FOR
 4e870 54494659 2920213d 20300000 2a2a2a20  TIFY) != 0..***
```