Computer Systems Fundamentals

i_love_mips.c

```c
#include <stdio.h>

int main(void) {
    printf("I love MIPS\n");
    return 0;
}
```

i_love_mips.s

```
main:
    la   $a0, string  # get addr of string
    li   $v0, 4       # 4 is print string syscall
    syscall
    jr   $ra

    .data
string:
    .asciiz "I love MIPS\n"
```

add.c

add 17 and 25 and print result

```c
#include <stdio.h>

int main(void) {
    int x = 17;
    int y = 25;
    printf("%d\n", x + y);

    return 0;
}
```

add.simple.c

```c
#include <stdio.h>

int main(void) {
    int x, y, z;
    x = 17;
    y = 25;
    z = x + y;
    printf("%d", z);
    printf("\n");
    return 0;
}
```

add.s

add 17 and 25 and print result

```
main:                   #  x, y, z in $t0, $t1, $t2,
    li   $t0, 17        # x = 17;

    li   $t1, 25        # y = 25;

    add  $t2, $t1, $t0  # z = x + y

    move $a0, $t2       # printf("%d", a0);
    li   $v0, 1
    syscall

    li   $a0, '\n'       # printf("%c", '\n');
    li   $v0, 11
    syscall

    li   $v0, 0         # return 0
    jr   $ra
```

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