cs154 Introduction to Computer Architecture

COMPUTER ORGANIZATION AND DESIGN

THE HARDWARE/SOFTWARE INTERFACE

FIFTH EDITION

DAVID A. PATTERSON
JOHN L. HENNESSY

MK
MORGAN KAUFMANN

High-level language program (in C)

```
swap(int v[], int k)
{int temp;
    temp = v[k];
    v[k] = v[k+1];
    v[k+1] = temp;
}
```

Compiler

Assembly language program (for MIPS)

```
swap:
    multi $2, $5,4
    add   $2, $4,$2
    lw    $15, 0($2)
    lw    $16, 4($2)
    sw    $16, 0($2)
    sw    $15, 4($2)
    jr    $31
```

Assembler

Binary machine language program (for MIPS)

```
00000000101000011000000000011000
00000000100000110000100000100001
10001101111000100000000000000000
10001110001000100000000000000100
10101110001000100000000000000000
10101101111000100000000000000100
00000011111000000000000000001000
```

cs154 Introduction to Computer Architecture

- Term: Winter 2019
- Web page: http://koclab.cs.ucsb.edu/teaching/cs154
- Lectures: Monday, Wednesday 12:30-1:45pm, Broida 1640

- Instructor: Professor Koç — pronounced as "Coach"
- Instructor Office: HFH 1119
- Instructor Office Hours: Tuesdays 2:00-4:00pm

cs154 Introduction to Computer Architecture

- Teaching Assistants:
  Mehmet Emre (emre@cs.ucsb.edu)
  Chinmay Garg (chinmay@ucsb.edu)
  Sid Senthilkumar (siddarth@ucsb.edu)

- Lab: Phelps 3525

- Lab Sections and TAs:
  Friday 12:00pm-12:50pm (all TAs attend)
  Friday 01:00pm-01:50pm (all TAs attend)
  Friday 02:00pm-02:50pm (all TAs attend)

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- TA Office: Trailer 936 Room 104
- TA Office Hours:
  Chinmay: Tuesday 10:00am-12:00pm
  Mehmet: Thursday 10:30am-12:30pm
  Sid: Thursday 12:30p-02:30pm

cs154 Introduction to Computer Architecture

- Course material is in the folder **docx** (see the web site)
- Join the **Piazza page** for cs154-related discussions
- Check the class web and the Piazza page once a day
- The grades: **cs154.htm** (see the web site)
- The grades will be posted without name or PERM number
- Students are assigned a Code = your PERM number mod 98773
- Example: PERM = 1234567 implies Code = 49291

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- We will have 4 Homework Assignments
- Due dates and hours are TBA

- We will have 4 Labs
- Due dates and hours are TBA

- See the web site for the HW and Lab reports and delivery methods

- The Midterm Exam will be in class during class time on Mon, Feb 11
- The Final Exam will be in class at 12:00-3:00pm on Tue, Mar 19