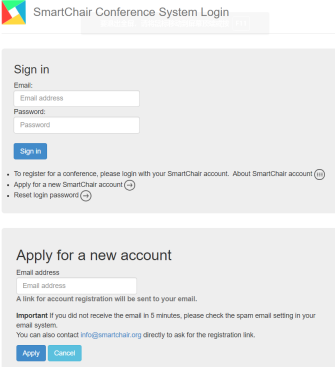


Register your account at *SmartChair*

- 1 Goto website:
<http://www.smartchair.org/session/login/>
- 2 Click on the '→' after 'Apply for a new SmartChair account.'
- 3 Use your SEU Email for registration
e.g. 213190186@seu.edu.cn
- 4 Homepage for our course:
<http://www.smartchair.org/hp/Wjx-AP2021>



The image shows a web interface for the SmartChair Conference System. It has a header with the SmartChair logo and the text "SmartChair Conference System Login". Below the header, there are two main sections. The first section is titled "Sign in" and contains a form with fields for "Email address" and "Password", and a "Sign in" button. Below the form, there is a list of links: "To register for a conference, please login with your SmartChair account. About SmartChair account", "Apply for a new SmartChair account", and "Reset login password". The second section is titled "Apply for a new account" and contains a form with an "Email address" field. Below the form, there is a message: "A link for account registration will be sent to your email." and an "Important" note: "If you did not receive the email in 5 minutes, please check the spam email setting in your email system. You can also contact info@smartchair.org directly to ask for the registration link." At the bottom of the section, there are "Apply" and "Cancel" buttons.

SmartChair Conference System Login

Sign in

Email:
Email address
Password:
Password

Sign in

- To register for a conference, please login with your SmartChair account. About SmartChair account
- Apply for a new SmartChair account
- Reset login password

Apply for a new account

Email address
Email address

A link for account registration will be sent to your email.

Important: If you did not receive the email in 5 minutes, please check the spam email setting in your email system.
You can also contact info@smartchair.org directly to ask for the registration link.

Apply Cancel

Seminar

Zherui Yang

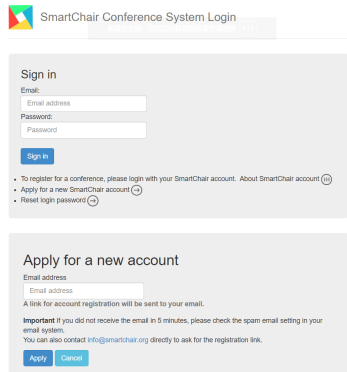
October 29, 2021

Content

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- 5 Summary

Register your account at *SmartChair*

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The screenshot shows the 'SmartChair Conference System Login' page. It features a 'Sign in' section with fields for 'Email address' and 'Password', and a 'Sign in' button. Below this is a list of links: 'To register for a conference, please login with your SmartChair account. About SmartChair account (m)', 'Apply for a new SmartChair account (→)', and 'Reset login password (→)'. The 'Apply for a new account' section includes an 'Email address' field, a note that a registration link will be sent to the email, and an 'Important!' note stating that if the email is not received within 5 minutes, the user should check their spam folder or contact info@smartchair.org for a registration link. At the bottom of this section are 'Apply' and 'Cancel' buttons.

Wait for your confirmation email! (mostly in 5 minutes)

Before you got the email...

About me

Study:

- 1 GPA – 4.099/4.8 – 3.88/4.0;
- 2 Rank – 15/160;
- 3 10+ in-course award. (of almost all the basic courses you('ll) take)
- 4 Major target — Applied Mathematics.

Career:

- 1 (21-) 书院
- 2 (21-) 至善宣讲团秘书处
- 3 (21-) Robocup 校队队员
- 4 (19-20) 团委宣传部

— And we met before.

University life from my view...

A rat race and a white war which is full of stress and infighting.

Opportunities always for those who are prepared.

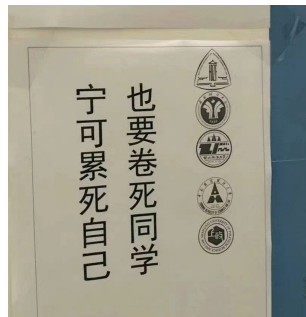


Figure: 'Awesome'

After you got the confirm email

C++ Programming Language

课程注册确认

姓名: (名 + 姓)

所属单位:

Email:

Attention

- 1 use real full name to register.
- 2 Department – seu.

The homepage for your hw submission from now on

C++ Programming Language [Wjx-AP2021] [Online Registration](#)

seu :: 杨哲睿 Top Account +

课程信息

- 2021年 9月6日 ~ 2022年 2月10日 @ Nanjing HP: <http://www.smartchair.org/hp/Wjx-AP2021>

选择

课程注册: 截止日期: 31 October, 2021

状态: [未注册] **GO**

文件下载

- 无文件下载

© 2012-2021 [SmartChair Conference System](#) (Timezone of current conference: GMT+8 hours)
Web browser requirement: Internet Explorer: version 11 or above required; Safari, Chrome, Firefox and other browsers: latest version recommended.

Figure: Click on **GO**.

The last step

基本信息	
姓名	杨 哲睿
Email	213190186@seu.edu.cn
所属单位	seu
注册类型 *	Student ▾
学号 *	<input type="text"/> 例如: 61519322

保存提交注册信息

Figure: Student not General.

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A demo for homework submission

课程信息

- 2021年 9月6日 ~ 2022年 2月10日 @ Nanjing HP: <http://www.smartchair.org/hp/Wjx-AP2021>

选择

课程注册:

截止日期: 31 October, 2021

状态: [Registered] GO

Homework submission test:

截止日期: 2021-10-31 23:59:59

状态: [未提交] GO



文件下载

- 无文件下载

A demo for homework submission

- You can modify your homework anytime before deadline (even you clicked the submit button)
- You can get the grade on this page after evaluation on the same page.

Homework submission test [ID: 1]

状态	未提交	Please confirm your input and submit.
----	-----	---------------------------------------

2021-10-28 第x周作业

Source Code	[概率论 (软件.zip)]
Additional Remark	123

修改 提交

Homework submission test [ID: 2]

状态	Accepted
分数	90
批改意见	Good job.

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What do you think of Programming / Program?

- State — S
- Input/Output — I, O
- Your program on computer — $F : S \times I \rightarrow S' \times O$

A program is a function.

Think about Function

What do you think of **Functions**?

Generally, in three aspects:

- 1 Map — just as it is in math.
e.g. `sqrt(2)`
- 2 Procedure — change the state;
e.g. `printf("hello world")`
- 3 Recursion — Divide and Conquer
e.g. `factorial(3)`, `matmul(A, B)`

Programming is about thinking rather than typing.

SICP — Structure and Interpretation of Computer Programs ¹

Functional — **Racket**², Lisp, Scheme...

Programming today is more like science. You grab this piece of library and you poke at it. You write programs that poke it and see what it does. And you say, 'Can I tweak it to do the thing I want? ... Nowadays, we do programming by typing. Why MIT stopped teaching SICP

Programming Is Not About Typing, It's About Thinking.

— Rich Hickey

¹ <https://mitpress.mit.edu/sites/default/files/sicp/index.html>

² <https://racket-lang.org/>

Maybe a better way for C++

It's possible for a skilled programmer to learn 50% of any programming language in 30 mins.

Beginner — foreign to grammar, and especially, algorithm.

Learn, exercise, and then summary

How to think about the function/program: what is the

- Input I – parameters – e.g. `scanf`
- Output O – return value – e.g. `printf`
- State S – pass by reference, global/static variables, API of OS
- Map M – body – the logic of your code

of each functions in your program.

Totally different from Analysis and Algebra!

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Best practice to finish your homework and test

do_homework

```
while (not finished)
{
    Project proj = create_project();
    debug_and_test(proj);
    finished = fetch_question();
}
```

Best practice to finish your homework and test

Arrange your submission file.

Suppose there are 3 questions this week, namely '1', '3', '4.1'.

```
61519322.zip
|- 61519322
   |- Q1
      |- Q1.cpp
   |- Q3
      |- Q3.cpp
      |- person.cpp
      |- person.h
   |- Q4_1
      |- Q4_1.cpp
```

Create a project for your homework

A good name is a legal *identifier* in C++, or a natural number at least e.g.

- 1 'rct'
- 2 '1', 'proj1', 'exam1'
- 3 'week6_q1'
- 4 ...

How to Debug?

There are two main methods

- 1 print values to screen
- 2 breakpoint + watch

Example

Fill the blocks with 1. (just as the paint bucket)

Debug using breakpoint and watch

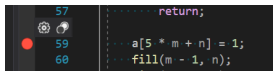


Figure: Breakpoint

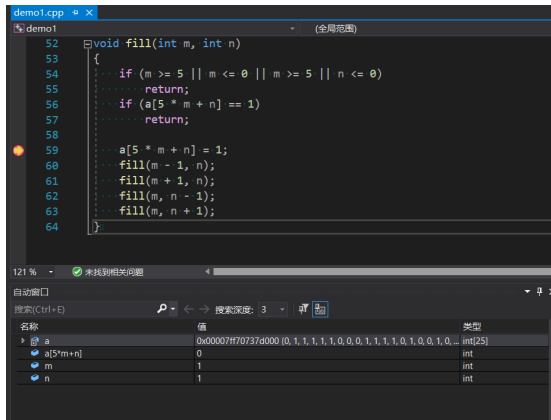


Figure: When line with breakpoint is going to be executed, the program will be paused, and the variables will be shown below.

Debug using breakpoint and watch



Figure: Buttons to control the execution your program

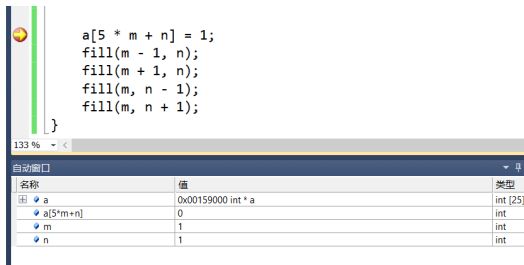


Figure: Debug under VS2010

Content

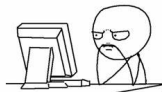
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Recent Questions

- 1 Expression Evaluation? → Compiler Principle.
- 2 Infinite Recursion / Loop → breakpoint+watch
- 3 Type casting and redefinition.
- 4 Where we should (not) use global variables?
- 5 Generalization —
- 6 How can i implement xxx? — think about functions
- 7 What is memory/cpu/... ?
- 8 How to ask good questions. — what is the bug, how to reproduce the bug.
- 9 **Any other questions?**

PROGRAMMERS WHILE CODING

It doesn't work...Why?



It works...Why?



Figure: My coding life.