写出下列程序的运行结果



```
int main()
   const char *c[]={"John learn C++ language",
   const char **p[] = \{c+3, c+2, c+1, c\};
   const char ***pp=p;
   cout << (**++pp);
   cout << (*--*++pp+4):
   cout << (*pp[-2]+3);
   cout << (pp[-1][-1]+2);
   cout << endl;
   return 0;
```

注: 直接在本文件上作答,画出程序执行过程的内存变化即可

★ 首先画出三句定义语句结束后内存中各变量的所占空间及初值

"Be well!", "You", "Not very"};

- ★ 每个执行语句的每一步执行完成后的内存中各变量的所占空间及值
- ★ 每步变化一个页面(例: **++pp, 分三步计算, 需要三页)
- ★ 不允许手写在纸上,再拍照贴图
- ★ 允许在各种软件工具上完成,再截图贴图
- ★ 转换为pdf后提交

С	1000	2000
	1004	2100
	1008	2200
	1012	2300

р	3000	1012
	3004	1008
	3008	1004
	3012	1000

pp 4000 3000	
--------------	--



字符串常量"John learn C++ language"

language"		
2000	J	
2001	0	
2020	а	
2021	g	
2022	e	
2023	\0	

字符串常量"Be well!"

2100	В
2101	e
2102	£ 3
2103	w
2104	e
2105	ı
2106	I
2107	\0

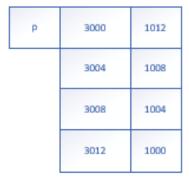
字符串常量"You"

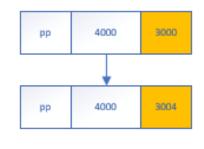
2200	Υ
2201	0
2202	u
2203	\0

cout << (**++pp);

++pp

c	1000	2000
	1004	2100
	1008	2200
	1012	2300





字符事常量*John learn C++ language*

language"		
2000	J	
2001	0	
2020	a	
2021	g	
2022	e	
2023	\0	

字符串常量"Be well!"

2100	В
2101	ė
2102	**
2103	w
2104	ė
2105	ı
2106	ı
2107	\0

字符串常量"You"

2200	Y
2201	9
2202	ш
2203	\0

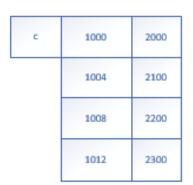
2300	N
2301	0
2302	t
2303	4.1
2304	>
2305	e
2306	r
2307	y
2308	\0

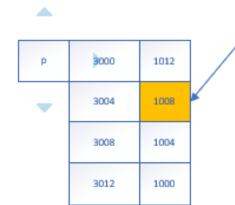






pp







字符串常量*John learn C++ language*

ialiguage		
2000	J	
2001	o	
2020	a	
2021	g	
2022	e	
2023	\0	

字	符	₽	常	i	'Be	well	ľ

2100	В
2101	e
2102	**
2103	w
2104	e
2105	ı
2106	ı
2107	\0

字符串常量"You"

2200	Y
2201	0
2202	u
2203	\0

字符串常量"Not very"

3004

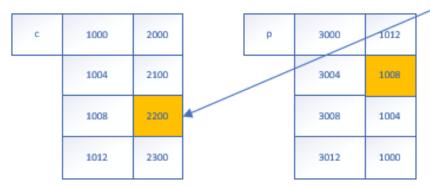
4000

2300	N
2301	0
2302	t
2303	41
2304	٧
2305	e
2306	г
2307	у
2308	\0

cout << (**++pp);

**++pp

输出2200位置的字符至遇到尾0,输出结果为You





字符事常量*John learn C++ language*

language"		
2000	J	
2001	o	
2020	a	
2021	g	
2022	e	
2023	\0	

100 0	77.00		Here a	
	उक	帝王	Be.	well!

2100	В
2101	ê
2102	4.0
2103	w
2104	ė
2105	ı
2106	ı
2107	\0

字符串常量"You"

2200	*
2201	0
2202	ш
2203	/0

字符串常量"Not very"

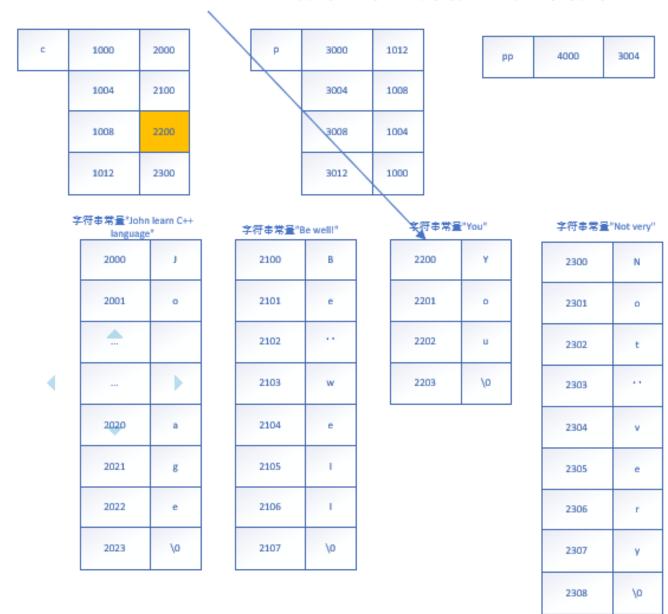
N
0
t
4.1
>
e
r
У
\0



cout << (**++pp);







cout << (*--*++pp+4);

++pp

c	1000	2000
	1004	2100
	1008	2200
	1012	2300

р	3000	1012
	3004	1008
	3008	1004
	3012	1000



字符串常量*John learn C++

ianguage"		
2000	J	
2001	0	
2020	a	
2021	g	
2022	e	
2023	\0	

字符串常量"Be well!"

2100	В
2101	ė
2102	44
2103	ŵ
2104	e
2105	÷
2106	ı
2107	\0

字符串常量"You"

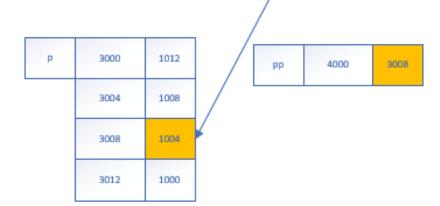
2200	Y	2300
2201	0	2301
2202	u	2302
2203	\0	2303
		2304
		2305
		2306
		2307

2300	N
2301	0
2302	t
2303	4.1
2304	>
2305	ė
2306	r
2307	У
2308	\0





c	1000	2000
	1004	2100
	1008	2200
	1012	2300



字符事常量*John learn C++ language*

language"		
2000	J	
2001	0	
2020	a	
2021	g	
2022	e	
2023	/0	

字符串常量"Be well!"

2100	В
2101	e
2102	
2103	w
2104	e
2105	I
2106	1
2107	\0

字符串常量"You"

2200	Y	2300	N
2201	0	2301	0
2202	ų.	2302	t
2203	\0	2303	4.1
		2304	٧
		2305	e
		2306	г
		2307	у

2308

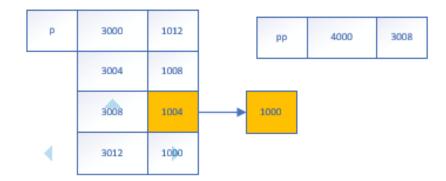
\0



cout << (*--*++pp+4);



c	1000	2000
	1004	2100
	1008	2200
	1012	2300



字符事常量*John learn C++

ianguage	
2000	J
2001	o
2020	a
2021	g
2022	e
2023	\0

字符串	常量	'Be	well!"
		_	

2100	В
2101	e
2102	44
2103	w
2104	ė
2105	ı
2106	ı
2107	\0

字符串常量"You"

2200

2201

2202

2203

ш

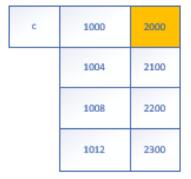
\0

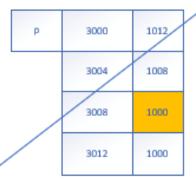
2300	N
2301	0
2302	t
2303	4.1
2304	٧
2305	e
2306	r
2307	У
2308	\0



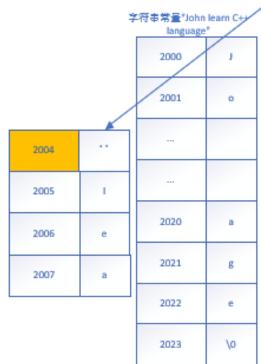








pp 4000 3008



2100	В
2101	ė
2102	44
2103	w
2104	e
2105	1
2106	1
2107	\0

字符串常量"Be well!"

2200 Y 2201 o 2202 u 2203 \0	子们中帝重 100		
2202 u	2200	Y	
	2201	0	
2203 \0	2202	ш	
	2203	\0	

文符主世書"You"

2300	N
2301	0
2302	t
2303	41
2304	٧
2305	ė
2306	г
2307	у
2308	\0



cout << (*--*++pp+4);

输出2004位置的字符至遇到尾0,输出结果为 learn C++ language(前有空格)



с	1000	2000
	1004	2100
	1008	2200
	1012	2300

р	3000	1012
	3004	1008
	3008	1000
	3012	1000

рр	4000	3008

字符串常量*John learn C++

ianguage	
2000	J
2001	0
2020	a
2021	g
2022	e
2023	\0

字符串常量"Be well!"

2100	В
2101	e
2102	44
2103	w
2104	ė
2105	1
2106	ı
2107	\0

字符串常量"You"

2200	Y	
2201	0	
2202	ш	
2203	\0	

2300	N
2301	0
2302	t
2303	4.1
2304	٧
2305	e
2306	r
2307	у
2308	\0



		_	\sim 1
\mathbf{n}			<i>)</i>
U	ш	_	
	_	L	

с	1000	2000
	1004	2100
	1008	2200
	1012	2300

Р	3000	1012	рр	4000	3008
	3004	1008			
	3008	1000			
	3012	1000			

字符串常量*John learn C++

tanguag				
nanguay				

ianguage		
2000	J	
2001	o	
2020	a	
2021	g	
2022	e	
2023	\0	

字符串常量"Be well

2100	В
2101	e
2102	44
2103	w
2104	e
2105	•
2106	ı
2107	\0

字符串常量"You"

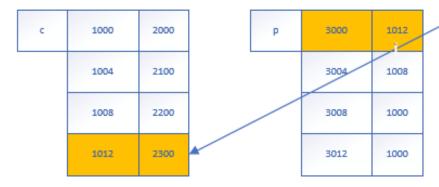
2200	Y
2201	0
2202	ш
2203	\0

2300	N
2301	0
2302	t
2303	4.1
2304	٧
2305	e
2306	r
2307	у
2308	\0











字符串常量"John learn C++ language"

lariguage		
2000	*	
2001	0	
2020	а	
2021	5,0	
2022	e	
2023	\0	

2100	В
2101	е
2102	4.7
2103	w
2104	е
2105	ı
2106	ı
2107	\0

字符串常量"You"

2200	Υ	2300	N
2201	o	2301	0
2202	u	2302	t
2203	\0	2303	£ 3
		2304	v
		2305	е
		2306	r
		2307	у

字符串常量"Not very"

2300	N
2301	o
2302	t
2303	£ 3
2304	v
2305	e
2306	r
2307	у
2308	\0



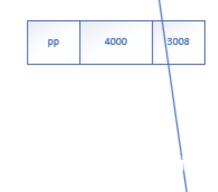
cout << (*pp[-2]+3);

4			г	\sim 1		$\overline{}$
T	n	n	I٠	2	1+	3
	Μ.	М	L١	_	Ι'	



С	1000	2000
	1004	2100
	1008	2200
	1012	2300

Р	3000	1012
	3004	1008
	3008	1000
	3012	1000



字符串常量"John learn C++ language"

language"				
2000	J			
2001	o			
2020	a			
2021	g			
2022	е			
2023	\0			

字符串常量"Be well!"

2100	В
2101	е
2102	4.7
2103	w
2104	е
2105	ı
2106	ı
2107	\0

字符串常量"You"

2200	Υ	2300	N
2201	o	2301	o
2202	u	2302	t
2203	\0	2303	£ 3
		2304	v
		2305	e
		2306	r
		2307	у

2308

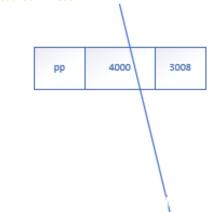
cout << (*pp[-2]+3);

输出2303位置的字符至遇到尾0,输出结果为 very(前有空格)



С	1000	2000
	1004	2100
	1008	2200
	1012	2300

р	3000	1012
	3004	1008
	3008	1000
	3012	1000



字符串常量"John learn C++ language"

J
0
a
g
е
\0

宇	符串	常量	₽"Ве	well!

2100	В
2101	е
2102	4.7
2103	w
2104	е
2105	1
2106	ı
2107	\0

字符串常量"You"

0

u

\0

2200

2201

2202

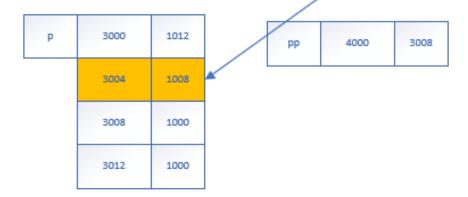
2203

	_ \
2300	h
2301	•
2302	t
2303	E 3
2304	÷
2305	e
2306	+
2307	у
2308	\0

cout << (pp[-1][-1]+2);



С	1000	2000
	1004	2100
	1008	2200
	1012	2300



字符串常量"John learn C++

-	ו ליל	фä	6.5	Linux	
4	1		-		ou"

2200

2201

2202

2203

language"			
2000	J		
2001	o		
2020	а		
2021	g		
2022	e		
2023	\0		

2100	В
2101	е
2102	4.7
2103	w
2104	е
2105	ı
2106	ı
2107	\0

В	
е	
4.7	
w	
е	
ı	
ı	
\0	

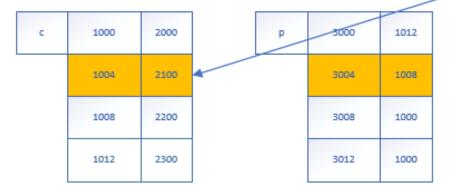
Υ		2300	N
0		2301	0
u		2302	t
\0		2303	6.3
	•	2304	V
		2305	e
		2306	r
		2307	у
		2308	\0



cout << (pp[-1][-1]+2);







|--|

字符串常量"John learn C++ language"

in ignous.	
2000	→
2001	0
2020	a
2021	g
2022	е
2023	\0

字符串常量"Be well!"

2100	В
2101	е
2102	4.7
2103	w
2104	е
2105	1
2106	ı
2107	\0

字符串常量"You"

2200	Υ	2300
2201	o	2301
2202	u	2302
2203	\0	2303
		2304
		2305
		2306

字符串常量"Not very"

2300	N
2301	o
2302	t
2303	£ 3
2304	v
2305	e
2306	г
2307	у
2308	\0







С	1000	2000
	1004	2100
	1008	2200
	1012	2300

р	3000	1012
	3004	1008
	3008	1000
	3012	1000

Р	3000	1012	pp 4000 3000
	3004	1008	
	3008	1000	
	3012	1000	
			l /

字符串常量"John learn C++ language"

iongooge.		
2000	J	
2001	o	
2020	a	
2021	6.0	
2022	е	
2023	\0	

2100	В
2101	e
2102	4.7
2103	w
2104	е
2105	ı
2106	ı

2107

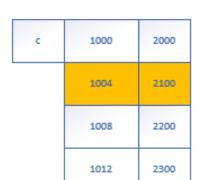
\0

字符串常量"Be well!"

字符單常量"You"		
2200	γ	
2201	0	
2202	u	
2203	\0	

2300	N
2301	o
2302	t
2303	
2304	v
2305	
2306	r
2307	у

cout << (pp[-1][-1]+2); 输出2102位置的字符至遇到尾0,输出结果为 well(前有空格)



р	3000	1012
	3004	1008
	3008	1000
	3012	1000

рр	4000	3008
----	------	------

字符串常量"John learn C++ language*

language		
2000	J	
2001	0	
2020	a	
2021	go	
2022	e	
2023	\0	

2100	В
2101	е
2102	4.7
2103	w
2104	е
2105	1
2106	I
2107	\0

字符串常量"Be well!"

字符串常量"You"

2200	Υ	
2201	o	
2202	u	
2203	\0	

2300	N
2301	o
2302	t
2303	
2304	ν
2305	e
2306	г
2307	у
2308	\0





- 总的输出结果为:
- You learn C++ language very well!