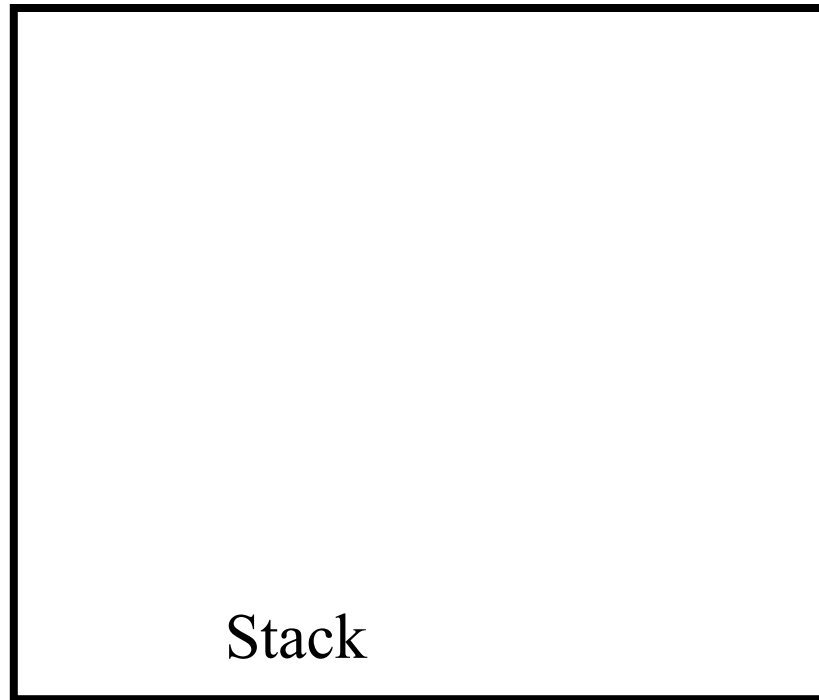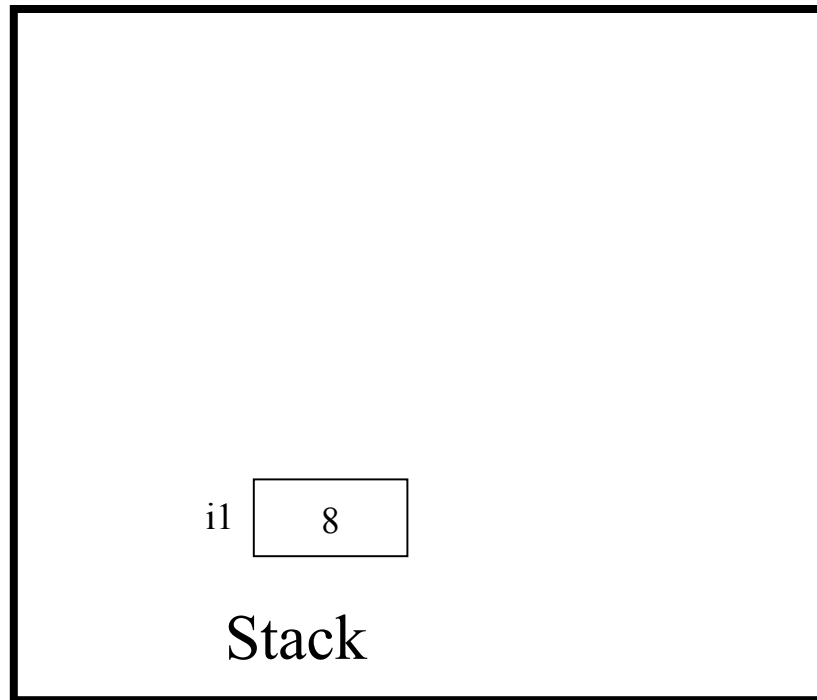# Princeton University
COS 217: Introduction to Programming Systems
Trace of testswap

```
int main(void)
```
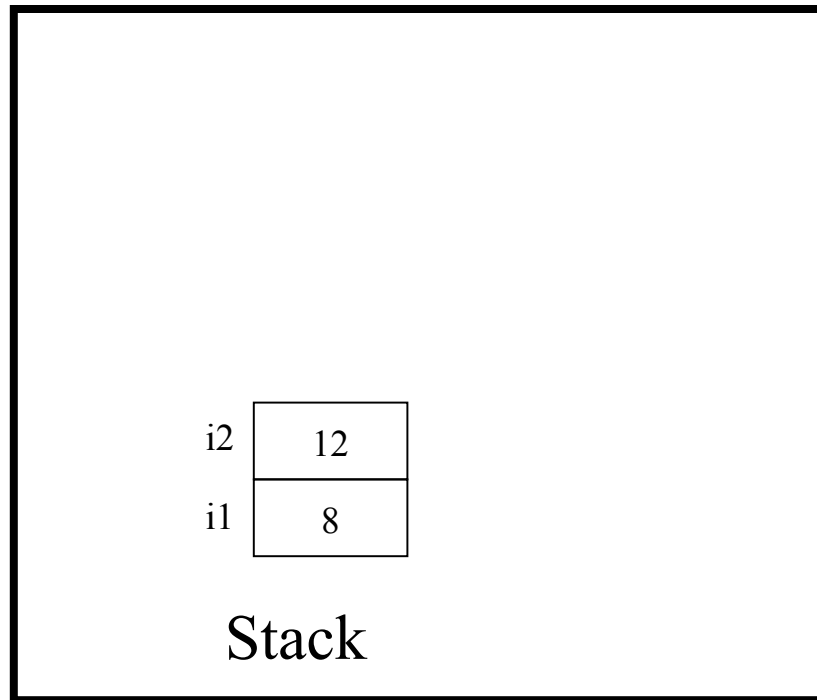
Stack

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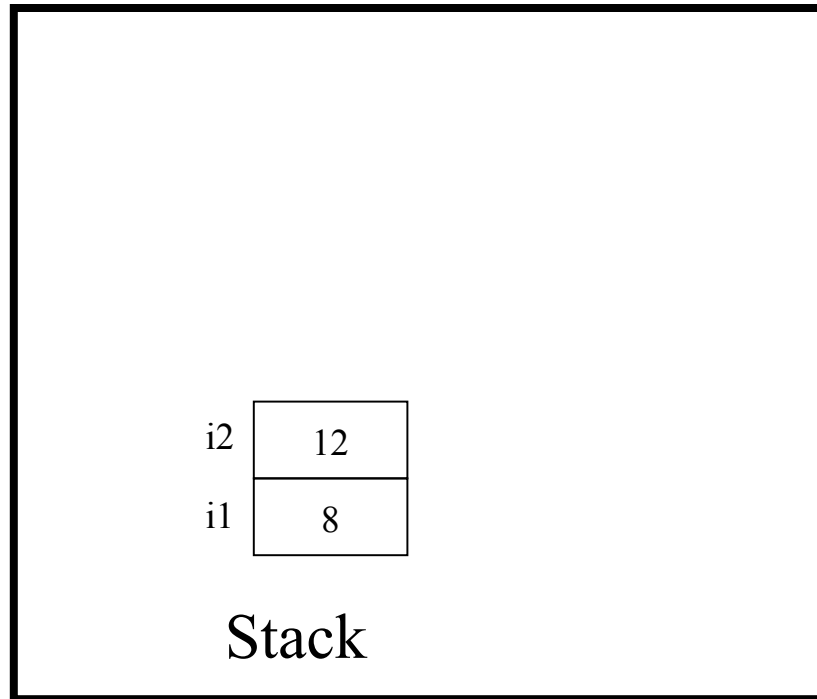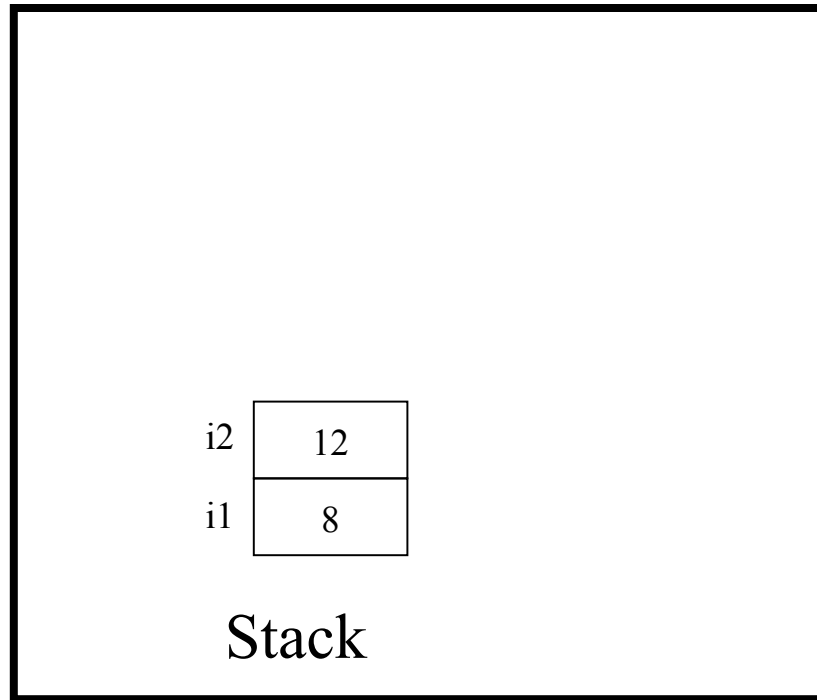Trace of testswap

```
int i1 = 8;
```

i1 | 8

Stack

```
int i2 = 12;
```

| i2 | 12 |
| i1 | 8 |

Stack

```
printf("Before:  %d %d\n", i1, i2);
```

i2	12
i1	8

Stack

```
swap(&i1, &i2);
```

i2	12
i1	8

Stack

```
static void swap(int *piFirst, int *piSecond)
```
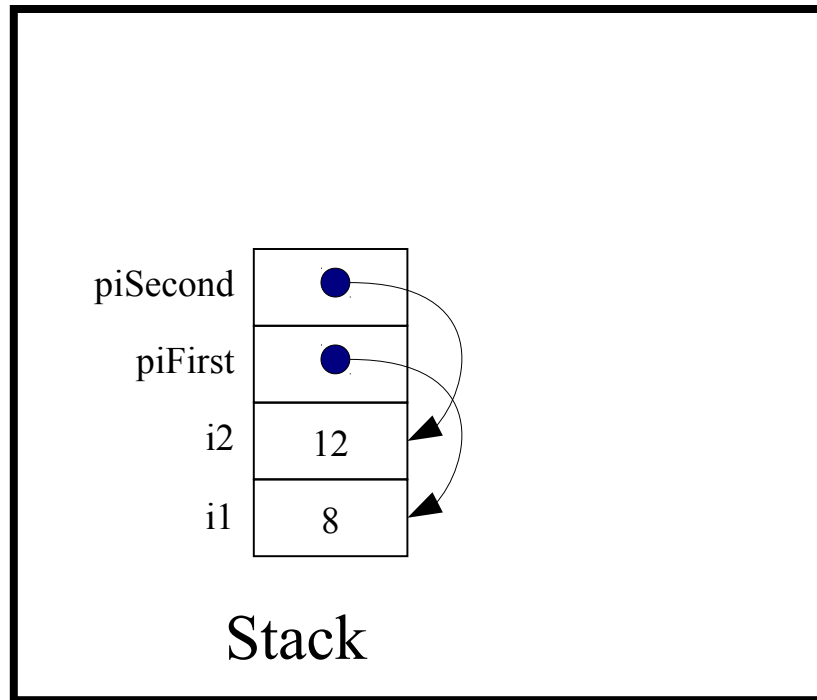

Stack

```
int iTemp;
```

iTemp	
piSecond	●
piFirst	●
i2	12
i1	8

Stack

```
assert(piFirst != NULL);
```

iTemp

piSecond ●

piFirst ●

i2   12

i1   8

Stack
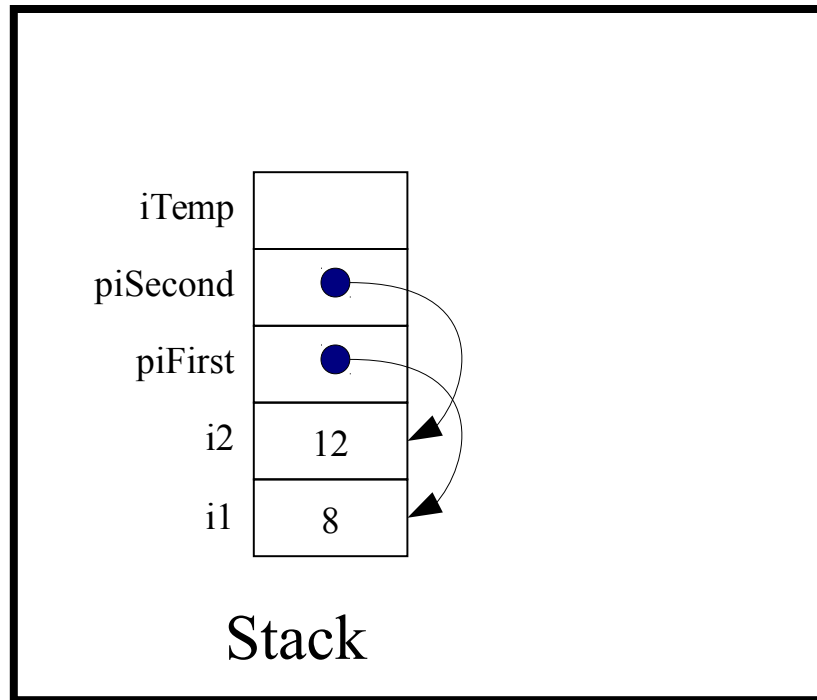
Princeton University
COS 217: Introduction to Programming Systems
Trace of testswap

```
assert(piSecond != NULL);
```


Stack

Princeton University
COS 217: Introduction to Programming Systems
Trace of testswap

```
iTemp = *piFirst;
```

iTemp	8
piSecond	●
piFirst	●
i2	12
i1	8

Stack

Princeton University
COS 217: Introduction to Programming Systems
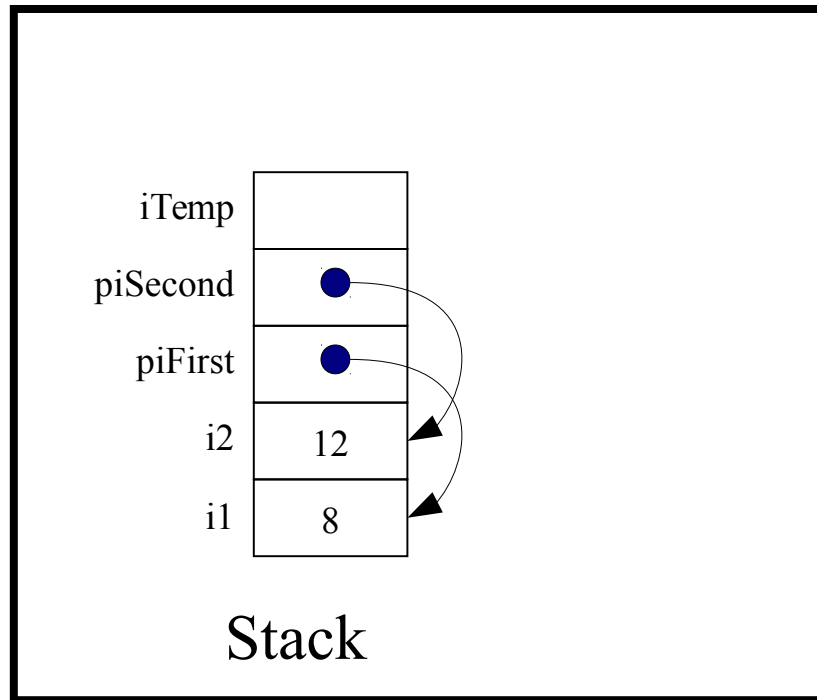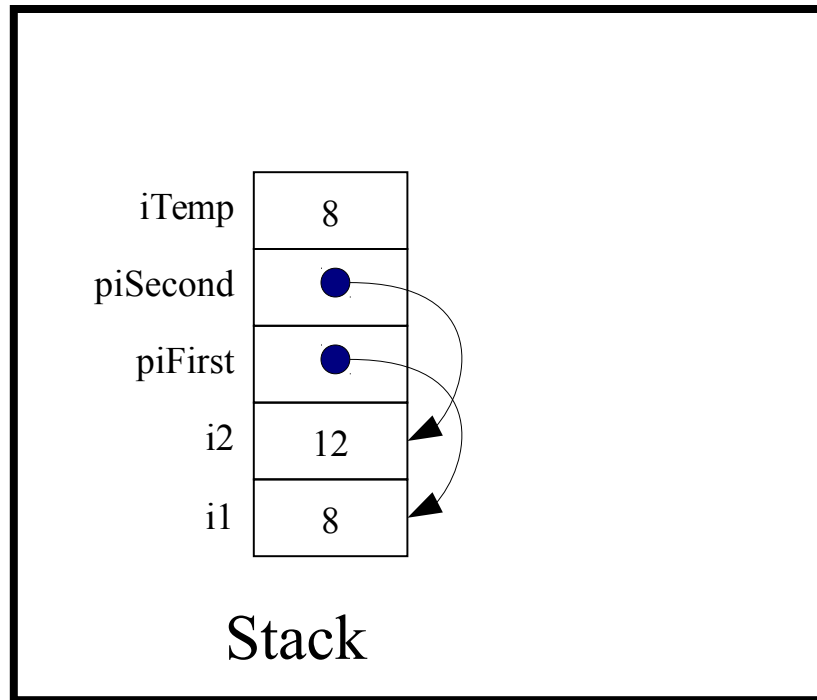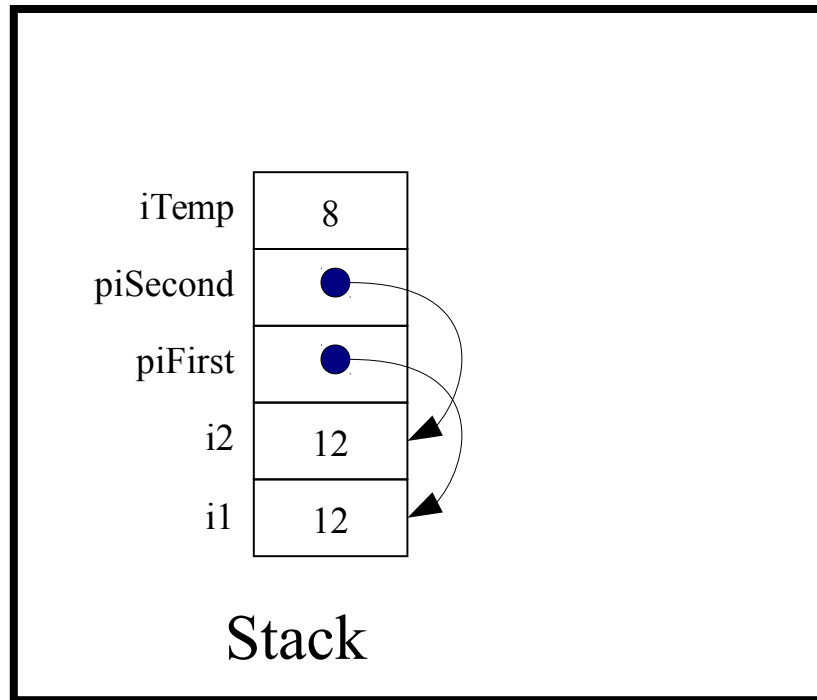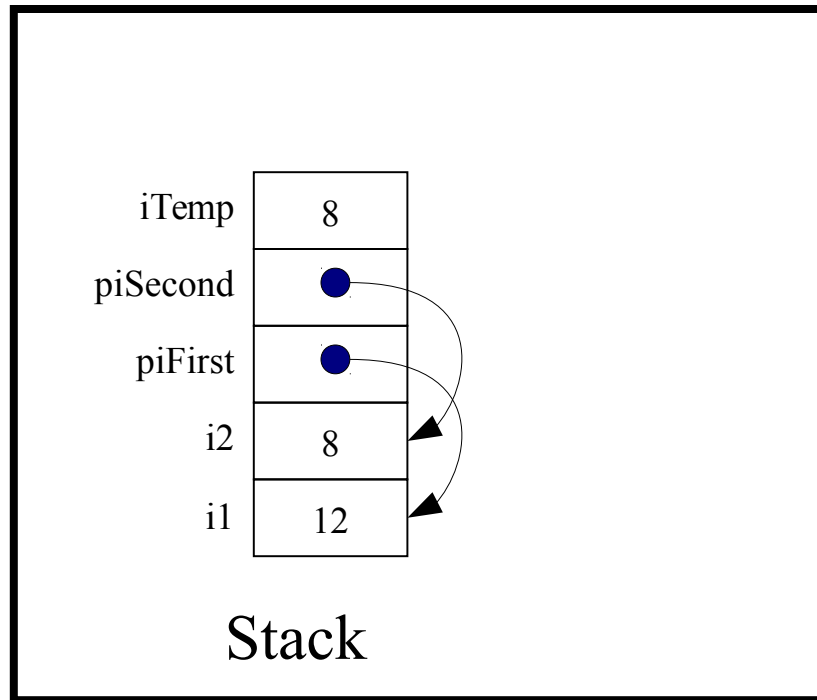### Trace of testswap

```
*piFirst = *piSecond;
```

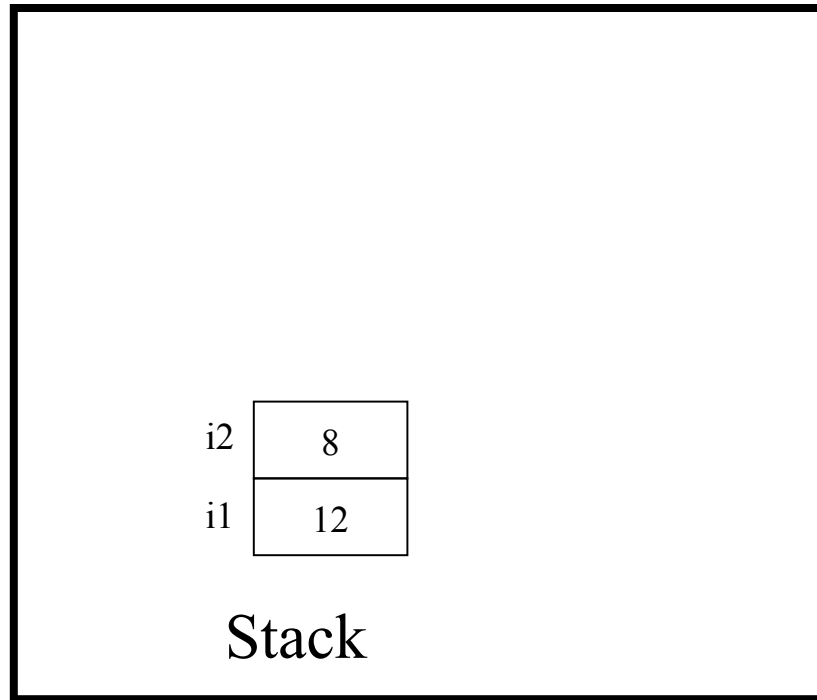|	
iTemp	8
piSecond	●
piFirst	●
i2	12
i1	12

Stack

```
*piSecond = iTemp;
```


iTemp	8
piSecond	●
piFirst	●
i2	8
i1	12

Stack

Implicit return

i2	8
i1	12

Stack

```
printf("After:  %d %d\n", i1, i2);
```

i2	8
i1	12

Stack

```
return 0;
```

Stack