

Annotations for Brick.java

```
1  class Brick {  
2      void m(int i, double d) { }  
3      void m(double d, int m) { }  
4  
5      {  
6          m(1, 2);  
7      }  
8  }
```

Compiler Output

```
Brick.java:6: error: reference to m is ambiguous,  
both method m(int,double) in Brick and method m(double,int) in Brick match  
    m(1, 2);  
      ^
```

1 error

Questionnaire

1. Have you ever encountered this error message before?

Yes No Unsure

2. How confident are you about the accuracy of your explanation for this error message?

Not at all confident

Somewhat confident

Moderately confident

Highly confident

Completely confident

Annotations for Brick.java

```
1  class Brick {  
2      void m(int i, double d) { }      int i. + int m  
3      void m(double d, int m) { }      int m. + int m  
4      void m / int m  
5  {  
6      m(1, 2); → either 1,0 or 2,0  
7  }  
8  }
```

Compiler Output

```
Brick.java:6: error: reference to m is ambiguous,  
both method m(int,double) in Brick and method m(double,int) in Brick match  
    m(1, 2);  
    ^
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Annotations for Brick.java

```
1  class Brick {
2      void m(int i, double d) { }
3      void m(double d, int m) { }
4      {
5          int x=1
6          double y=2
7          m(x,y)
8          m(1, 2);
9      }
10 }
```

Compiler Output

```
Brick.java:6: error: reference to m is ambiguous,
both method m(int,double) in Brick and method m(double,int) in Brick match
    m(1, 2);
    ^
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```
1  class Brick {
2      void m(int i, double d) { }
3      void m(double d, int m) { }
4
5      {
6          m(1, 2);
7          ambiguity in arguments
8      }
```

Compiler Output

```
Brick.java:6: error: reference to m is ambiguous,
both method m(int,double) in Brick and method m(double,int) in Brick match
    m(1, 2);
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6          m(1, 2);
7      }
8  }
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```
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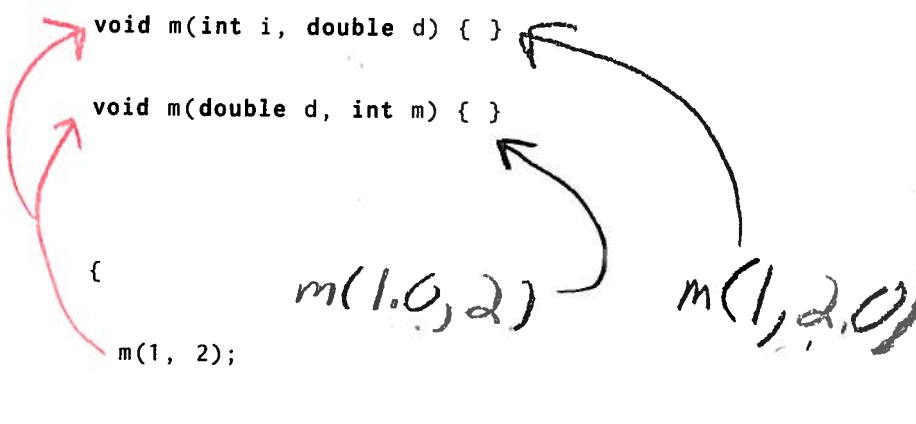
Moderately confident

Highly confident

Completely confident

Annotations for Brick.java

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3      void m(double d, int m) { }  
4  
5      {  
6          m(1, 2);  
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8  }
```



Compiler Output

```
Brick.java:6: error: reference to m is ambiguous,  
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2      void m(int i, double d) { }
3      void m(double d, int m) { }
4
5      {
6          m(1, 2);
7      }
8  }
```

Same name and similar parameters

Compiler Output

```
Brick.java:6: error: reference to m is ambiguous,
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    m(1, 2);
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1  class Brick {
2      void m(int i, double d) { }
3      void m(double d, int m) { }
4
5      {
6          m(1, 2);
7      }
8  }
```

too many matches

Compiler Output

```
Brick.java:6: error: reference to m is ambiguous,
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    m(1, 2);
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1  class Brick {
2      void m(int i, double d) { }
3      void m(double d, int m) { }
4
5      {
6          m(1, 2);
7      }
8  }
```

unclear which call is being made

m(double) 1, 2

m(1, (double) 2)

Compiler Output

```
Brick.java:6: error: reference to m is ambiguous,
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    m(1, 2);
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6          m(1, 2);  
7          }  
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Compiler Output

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```
1  class Brick {
2      void m(int i, double d) { }
3      void m(double d, int m) { }
4
5      {
6          m(1, 2);
7          } int vs double ?
8  }
```

Compiler Output

```
Brick.java:6: error: reference to m is ambiguous,
both method m(int,double) in Brick and method m(double,int) in Brick match
    m(1, 2);
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3      void m(double d, int m) { }
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5      {
6          m(1, 2);
7      }
8  }
```

Compiler Output

```
Brick.java:6: error: reference to m is ambiguous,
both method m(int,double) in Brick and method m(double,int) in Brick match
    m(1, 2);
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3      void m(double d, int m) { }
4
5      {
6          m(1, 2);
7      }
8  }
```

Compiler Output

```
Brick.java:6: error: reference to m is ambiguous,
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    m(1, 2);
    ^
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Annotations for Brick.java

```
1 class Brick {  
2     void m(int i, double d) { }  
3     void m(double d, int m) { }  
4     2 same  
5     {  
6     → m(1, 2);  
7     }  
8 }
```

error here (need to specify type of inputs, or clarify ambiguous method names).

Compiler Output

```
Brick.java:6: error: reference to m is ambiguous,  
both method m(int,double) in Brick and method m(double,int) in Brick match  
    m(1, 2);  
    ^
```

```
1 error
```

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```
1  class Brick {
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3      void m(double d, int m) { }
4
5      {
6          m(1, 2);
7      }
8  }
```

Handwritten annotations:
Line 6: `m(1, 2);`
- Arrow from '1' to 'int' in the first method signature.
- Arrow from '2' to 'double' in the first method signature.
- Arrow from '1' to 'double' in the second method signature.
- Arrow from '2' to 'int' in the second method signature.
- A box around 'double' in the second method signature.

Compiler Output

```
Brick.java:6: error: reference to m is ambiguous,
both method m(int,double) in Brick and method m(double,int) in Brick match
    m(1, 2);
    ^
```

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3      void m(double d, int m) { }  
4  
5      {  
6          m(1, 2);  
7      }  
8  }
```

Compiler Output

```
Brick.java:6: error: reference to m is ambiguous,  
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5      {  
6          m(1, 2);  
7      }  
8  }
```

Compiler Output

```
Brick.java:6: error: reference to m is ambiguous,  
both method m(int,double) in Brick and method m(double,int) in Brick match  
    m(1, 2);  
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```
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2      void m(int i, double d) { }  
3      void m(double d, int m) { }  
4  
5      {  
6          m(1, 2);  
7      }  
8  }
```

int or double

Compiler Output

```
Brick.java:6: error: reference to m is ambiguous,  
both method m(int,double) in Brick and method m(double,int) in Brick match  
    m(1, 2);  
    ^
```

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4  
5      {  
6          m(1, 2);  
7      }  
8  }
```

Compiler Output

```
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    m(1, 2);  
    ^
```

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```
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3      void m(double d, int m) { }
4
5      {
6          m(1, 2);
7      }
8  }
```

Annotations:

- table* (circled around the first method signature)
- int* (circled around the first argument '1')
- implied auto cast* (circled around the second argument '2')

Compiler Output

```
Brick.java:6: error: reference to m is ambiguous,
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    m(1, 2);
      ^
```

1 error

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```
1 class Brick {
2     void m(int i, double d) { }
3     void m(double d, int m) { }
4
5     {
6         m(1, 2);
7     }
8 }
```

These arguments could be interpreted as either double or int types.
Try casting one or both arguments

Compiler Output

```
Brick.java:6: error: reference to m is ambiguous,
both method m(int,double) in Brick and method m(double,int) in Brick match
    m(1, 2);
    ^
```

```
1 error
```

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```
1  class Brick {
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3      void m(double d, int m) { }
4
5      {
6          m(1, 2);
7      }
8  }
```

Compiler Output

```
Brick.java:6: error: reference to m is ambiguous,
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    m(1, 2);
    ^
```

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Annotations for Brick.java

```
1  class Brick {
2      void m(int i, double d) { }
3      void m(double d, int m) { }
4
5      {
6          m(1,0,2)
6          m(1, 2);
7      }
8  }
```

Compiler Output

```
Brick.java:6: error: reference to m is ambiguous,
both method m(int,double) in Brick and method m(double,int) in Brick match
    m(1, 2);
    ^
```

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```
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2      void m(int i, double d) { }
3      void m(double d, int m) { }
4
5      {
6          m(1, 2);
7      }
8  }
```

Handwritten annotations:
- Underline in red under 'int i' and 'double d' in line 2.
- Underline in blue under 'double d' and 'int m' in line 3.
- Underline in red under '1, 2' in line 6.
- Handwritten 'm(1.0, 2)' in green and red in line 6.
- Handwritten 'or' in green in line 7.
- Handwritten 'm(1, 2.0)' in green and blue in line 8.

Compiler Output

```
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both method m(int,double) in Brick and method m(double,int) in Brick match
    m(1, 2);
    ^
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Annotations for Brick.java

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2     → void m(int i, double d) { }
3     → void m(double d, int m) { }
4
5     {
6         m(1, 2);
7         1.0 2.0
8     } ? ?
9 }
```

Compiler Output

```
Brick.java:6: error: reference to m is ambiguous,
both method m(int,double) in Brick and method m(double,int) in Brick match
    m(1, 2);
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3      void m(double d, int m) { }  
4  
5      { int, double  
6          (?, ?)  
          m(1, 2);  
7      }  
8  }
```

Compiler Output

```
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