

## **Semantic Errors**

Compilers course

Masters in Informatics and Computing Engineering (MIEIC), 3rd Year

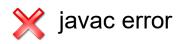
João M. P. Cardoso

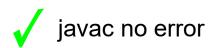


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Discuss the possible semantic errors and if you expect that javac (the java compiler) reports them

```
int f2(boolean b) {
                                                     int f3(int A[]) {
                         int c;
                                                       int b=1;
int f1 (int A[]) {
                         if(b) {
                                                       int c;
 int i = -1;
                            C=1;
                                                       while (b < 20) {
 return A[i];
                         } else {
                                                         c=b;
                            c=2;
                                                         b++;
                         return c;
                                                       return c;
                                                                         (c)
      (a)
                                         (b)
```





Discuss the possible semantic errors and if you expect that javac (the java compiler) reports them

```
Semantic Front.

int i = 1
           return A[i];
                (a)
```

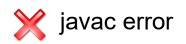
```
int f2(boolean b) {
                              int b=1;
  int c;
  if(b) {
    C=1;
                               while (b < 20)
  } else {
                                 c=b;
    c=2;
                                 b++;
  return c;
                               return c;
                                                (c)
                 (b)
```

Discuss the possible semantic errors and if you expect that javac (the java compiler) reports them

```
int f4(int b) {
  int c:
 if(b>1)
   if(b<10) c=1;
    else c = 2;
  else c=2;
  return c;
        (a)
```

```
int f5(int b) {
  int c;
  if(b>1) {
     if(b<10) c=1;
     if(b > = 10) c = 2;
  } else c=2;
  return c:
                  (b)
```

```
int f6(int b) {
  int c;
  if(b>1)
     if(b<10) c=1;
     else
       if(b==3) c = 2;
       else
         if(b==2) c = 4;
         else c = 5;
  else c=2;
  return c;
             (c)
```





Discuss the possible semantic errors and if you expect that javac (the java compiler) reports them

```
int f4(int b) {
  int c;
 if(b>1)
   if(b<10) c=1;
    else c = 2;
  else c=2;
  return c;
```

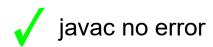
```
int f5(int b) {
  int c;
  if(b>1) {
     if(b<10) c=1;
     if(b > = 10) c = 2;
  } else c=2;
  return c;
                  (b)
```

```
int f6(int b) {
  int c;
  if(b>1)
     if(b < 10) c = 1;
     else
       if(b==3) c = 2;
       else
         if(b==2) c = 4;
         else c = 5;
 else c=2;
 return c;
              (C)
```

Discuss the possible semantic errors and if you expect that javac (the java compiler) reports them

```
public static void main(String args[]) {
   int d1, d2;
   int a = 5;
   int b=2;
   double c = 2d;
   d1 = (int) (a*b*c);
   d2 = (int) a*b*c;
   System.out.println("d1: "+d1+"\n");
   System.out.println("d2: "+d2+"\n");
```





Discuss the possible semantic errors and if you expect that javac (the java compiler) reports them

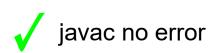
```
Semantic Error!
```

```
public static void main(String args[]) {
   int d1, d2;
   int a = 5;
   int b=2;
   double c = 2d;
   d1 = (int) (a*b*c);
   d2 = (int) a*b*c;
   System.out.println("d1: "+d1+"\n");
   System.out.println("d2: "+d2+"\n");
```

Discuss the possible semantic errors and if you expect that javac reports them

long a = 140737488355328;





Discuss the possible semantic errors and if you expect that javac reports them

Mantic Error!

long a = 140737488355328;

