This will be a somewhat silly example of a PAC with local variables because NONE of the three procedures have any parameter variables.

It is the parameter variables which make the procedures interesting.

```java
static void rebid() {
    int x=5;
    x = x+2;
    out.println(x);
}

static void bawlend() {
    int x = 2;
    rebid();
    out.print(x+' ');
}

static void main() {
    int y=3;
    int z=8;
    bawlend();
    y = 5*y;
    rebid();
    out.println(y+z);
}
```
This shows the final answer. The remaining pages show how it was obtained.

```java
static void rebid() {
    int x = 5; // Initial value of x
    x = x + 2;
    out.println(x);
}

static void bawlend() {
    int y = 3; // Initial value of y
    int z = 8;
    bawlend(); // Recursive call
    y = 5 * y; // Calculate new value of y
    rebid(); // Recursive call
    out.println(y + z); // Print the final result
}

static void main() {
    // Main method to start the program
}
```

Local Contexts:

- **y**: 3
- **z**: 8
- **x**: 2
- **x**: 5
- **x**: 7

Console Output:

```
7
27
23
```
This shows the final answer. The remaining pages show how it was obtained.

```
static void rebid() {
    int x=5; x = x+2;
    out.println(x);
}

static void bawlend() {
    int x = 2; rebid();
    out.println(x+' ');
}

static void main() {
    int y=3; int z=8;
    bawlend(); y = 5*y;
    rebid(); out.println(y+z);
}
```

Local Contexts

<table>
<thead>
<tr>
<th>#100</th>
<th>y</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>z</td>
<td>8</td>
</tr>
</tbody>
</table>

PAC

Entered main procedure

Created its first Local Context #100

Recorded id number in PAC

Initialized the two variables y and z of that Local Context

Console
This shows the final answer. The remaining pages show how it was obtained.

```java
static void rebid() {
    int x=5; x = x+2;
    out.println(x);
}

static void bawlend() {
    int x = 2; rebid();
    out.print(x+" ");
}

static void main() {
    int x=5; x = x+2;
    out.println(x);
    static void rebid() {
        int x=5; x = x+2;
        out.println(x);
    }
}
```

Local Contexts

<table>
<thead>
<tr>
<th>PAC</th>
<th>Entered bawlend procedure</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Created its first Local Context #200</td>
</tr>
<tr>
<td></td>
<td>Recorded id number in PAC</td>
</tr>
<tr>
<td></td>
<td>Initialized the variable x of that Local Context</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>#100</th>
<th>main</th>
<th>y</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>z</td>
<td>8</td>
</tr>
<tr>
<td>#200</td>
<td>bawlend</td>
<td>x</td>
<td>2</td>
</tr>
</tbody>
</table>

Console
This shows the final answer. The remaining pages show how it was obtained.

```java
static void rebid() {
    int x=5; x = x+2;
    out.println(x);
}

static void main() {
    int x = 2;
    rebid();
    out.print(x+' ');
}

int y=3; int z=8;
bawlend(); y = 5*y;
rebid(); out.println(y+z);
```

Local Contexts

<table>
<thead>
<tr>
<th>PAC</th>
<th>Main</th>
</tr>
</thead>
<tbody>
<tr>
<td>#100</td>
<td>3</td>
</tr>
<tr>
<td>#200</td>
<td>2</td>
</tr>
<tr>
<td>#300</td>
<td>5</td>
</tr>
</tbody>
</table>

Note: both Local Contexts #200 and #300 have their VERY OWN variable named x.

Entered rebid procedure

Created its first Local Context #300

Recorded id number in PAC

Initialized the variable x of that Local Context
This shows the final answer. The remaining pages show how it was obtained.

```java
static void rebid() {
    int x = 5; x = x + 2;
    out.println(x);
}

static void bawlend() {
    int x = 2; rebid();
    out.println(x + " ");
}

static void main() {
    int y = 3; int z = 8;
    bawlend(); y = 5 * y;
    rebid(); out.println(y + z);
}
```

Local Contexts:
- #100: y 3, z 8
- #200: x 2
- #300: x 5, 7

rebid procedure changes the value of its Local Context's variable named x.
This shows the final answer. The remaining pages show how it was obtained.

```java
static void rebid() {
    int x=5; x = x+2;
    out.println(x);
}

static void bawlend() {
    int y=3; int z=8;
    bawlend(); y = 5*y;
    rebid(); out.println(y+z);
}

static void main() {
}
```

rebid procedure outputs the value of its Local Context's variable named x.
This shows the final answer. The remaining pages show how it was obtained.

```java
static void rebid() {
    int x = 5; x = x + 2;
    out.println(x);
}

static void bawlend() {
    int x = 2; rebid();
    out.print(x + ' ');
}

static void main() {
    int y = 3; int z = 8;
    bawlend(); y = 5 * y;
    rebid(); out.println(y + z);
}
```

Local Contexts

<table>
<thead>
<tr>
<th>#100</th>
<th>y</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>z</td>
<td>8</td>
<td></td>
</tr>
</tbody>
</table>

| #200 | x | 2 |

| #300 | x | 5 | 7 |

Console

7

rebid returns to its caller bawlend.

This destroys rebid's Local Context #300.

Its variables (just the x) are NO LONGER AVAILABLE for any computation.
This shows the final answer. The remaining pages show how it was obtained.

```java
static void rebid() {
    int x=5; x = x+2;
    out.println(x);
}

static void bawlend() {
    int x = 2; rebid();
    out.print(x+'');
}

static void main() {
    int y=3; int z=8;
    bawlend(); y = 5*y;
    rebid(); out.println(y+z);
}
```

Local Contexts

- **Context #100**
  - `x`: 5
  - `y`: 3
  - `z`: 8

- **Context #200**
  - `x`: 2

- **Context #300**
  - `x`: 5
  - `z`: 7

**PAC Diagram**

- **Main Function**
  - Calls `bawlend()`
  - `x` is 2

- **Bawlend Function**
  - Outputs `x` and a space
  - Calls `rebid()`
  - `x` is 2

- **Rebid Function**
  - `x` is 5

**Console Output**

```
7
2
```
This shows the final answer. The remaining pages show how it was obtained.

```java
static void rebid() {
    int x=5; x = x+2;
    out.println(x);
}

static void bawlend() {
    int x = 2; rebid();
    out.print(x+' ');
}

static void main() {
    int y=3; int z=8;
    bawlend(); y = 5*y;
    rebid(); out.println(y+z);
}
```

Local Contexts

<table>
<thead>
<tr>
<th>PAC</th>
<th>Console</th>
</tr>
</thead>
<tbody>
<tr>
<td>main</td>
<td>7</td>
</tr>
<tr>
<td>bawlend</td>
<td>2</td>
</tr>
<tr>
<td>rebid</td>
<td>7</td>
</tr>
</tbody>
</table>

bawlend returns to its caller main.

This destroys rebid’s Local Context #300.

Its variables (just the x) are NO LONGER AVAILABLE for any computation.
This shows the final answer. The remaining pages show how it was obtained.

```java
static void rebid() {
    int x=5; x = x+2;
    out.println(x);
}
```

```java
static void bawlend() {
    int x = 2; rebid();
    out.print(x+' ');
}
```

```java
static void main() {
    int y=3; int z=8;
    bawlend(); y = 5*y;
    rebid(); out.println(y+z);
}
```

Main procedure changes the value of its Local Context's variable named `y`. 
This shows the final answer. The remaining pages show how it was obtained.

static void rebid() {
    int x=5;  x = x+2;  
    out.println(x);
}

static void bawlend() {
    int x = 2;  rebid();  
    out.print(x+' ');
}

static void main() {
    int y=3;  int z=8;
    bawlend();  y = 5*y;
    rebid();  out.println(y+z);
}

Local Contexts
#100    y  3  15
        z  8
#200    x  2
#300    x  5  7
#400    x  5

PAC
main   #100

bawlend  #200

rebid   #300

Recorded id number in PAC
Entered rebid procedure
Created its second Local Context #400
Initialized the variable x of that Local Context

Console
7
2

Entered rebid procedure
Created its second Local Context #400
Recorded id number in PAC
Initialized the variable x of that Local Context
This shows the final answer. The remaining pages show how it was obtained.

```java
static void rebid() {
    int x = 5; x = x + 2;
    out.println(x);
}

static void bawlend() {
    int y = 3; int z = 8;
    bawlend(); y = 5 * y;
    rebid(); out.println(y + z);
}

static void main() {
}
```

**Local Contexts**

<table>
<thead>
<tr>
<th>#100</th>
<th>y</th>
<th>15</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>z</td>
<td>8</td>
</tr>
<tr>
<td>#200</td>
<td>x</td>
<td>2</td>
</tr>
<tr>
<td>#300</td>
<td>x</td>
<td>5</td>
</tr>
<tr>
<td>#400</td>
<td>x</td>
<td>7</td>
</tr>
</tbody>
</table>

**PAC**

```
rebid procedure changes the value of its Local Context's variable named x.
```
This shows the final answer. The remaining pages show how it was obtained.

```java
static void rebid() {
    int x=5; x = x+2;
    out.println(x);
}

static void main() {
    int y=3; int z=8;
    bawlend(); y = 5*y;
    rebid(); out.println(y+z);
}
```

Local Contexts:

- **main**:
  - #100: y = 3, z = 8
- **bawlend**:
  - #200: x = 2
- **rebid**:
  - #300: x = 5

Console:

```
7 2 7
```

rebid procedure outputs the value of its Local Context's variable named x.
This shows the final answer. The remaining pages show how it was obtained.

```java
static void rebid() {
    int x=5; x = x+2;
    out.println(x);
}

static void bawlend() {
    int x = 2; rebid();
    out.println(x+' ');
}

static void main() {
    int y=3; int z=8;
    bawlend(); y = 5*y;
    rebid(); out.println(y+z);
}
```

```
Local Contexts

<table>
<thead>
<tr>
<th>#100</th>
<th>y</th>
<th>3</th>
<th>15</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>z</td>
<td>8</td>
<td></td>
</tr>
</tbody>
</table>

|   #200  | x | 2 |

|   #300  | x | 5 | 7 |

|   #400  | x | 5 | 7 |
```

**Console**

7
2
7

rebid returns to its caller bawlend.

This destroys rebid's Local Context #400.

Its variables (just the x) are NO LONGER AVAILABLE for any computation.
This shows the final answer. The remaining pages show how it was obtained.

```
static void rebid() {
    int x = 5; x = x + 2;
    out.println(x);
}

int x = 2; rebid();
out.print(x + ' ');

static void bawlend() {
    int y = 3; int z = 8;
    bawlend(); y = 5 * y;
    rebid(); out.println(y + z);
}
```

Local Contexts

<table>
<thead>
<tr>
<th>#100</th>
<th>y</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>z</td>
<td>15</td>
</tr>
<tr>
<td>#200</td>
<td>x</td>
<td>2</td>
</tr>
<tr>
<td>#300</td>
<td>x</td>
<td>7</td>
</tr>
<tr>
<td>#400</td>
<td>x</td>
<td>7</td>
</tr>
</tbody>
</table>

PAC

```
main

bawlend

rebid

Console

7
2 7
23
```

main procedure outputs the value of the sum of its Local Context's variables named y and z.
This shows the final answer. The remaining pages show how it was obtained.

```
static void rebid() {
    int x=5; x = x+2;
    out.println(x);
}

static void bawlend() {
    int x = 2; rebid();
    out.print(x+' ');
}

int y = 3; int z = 8;
static void main() {
    bawlend(); y = 5*y;
    rebid(); out.println(y+z);
}
```

Local Contexts

<table>
<thead>
<tr>
<th>Local Context</th>
<th>x</th>
<th>y</th>
<th>z</th>
</tr>
</thead>
<tbody>
<tr>
<td>#100</td>
<td>2</td>
<td>3</td>
<td>8</td>
</tr>
<tr>
<td>#200</td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>#300</td>
<td>7</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>#400</td>
<td>7</td>
<td>5</td>
<td></td>
</tr>
</tbody>
</table>

PAC

```
main
  #100
bawlend
  #200
rebid
  #300
  #400
```

Console

```
7
2 7
23
```