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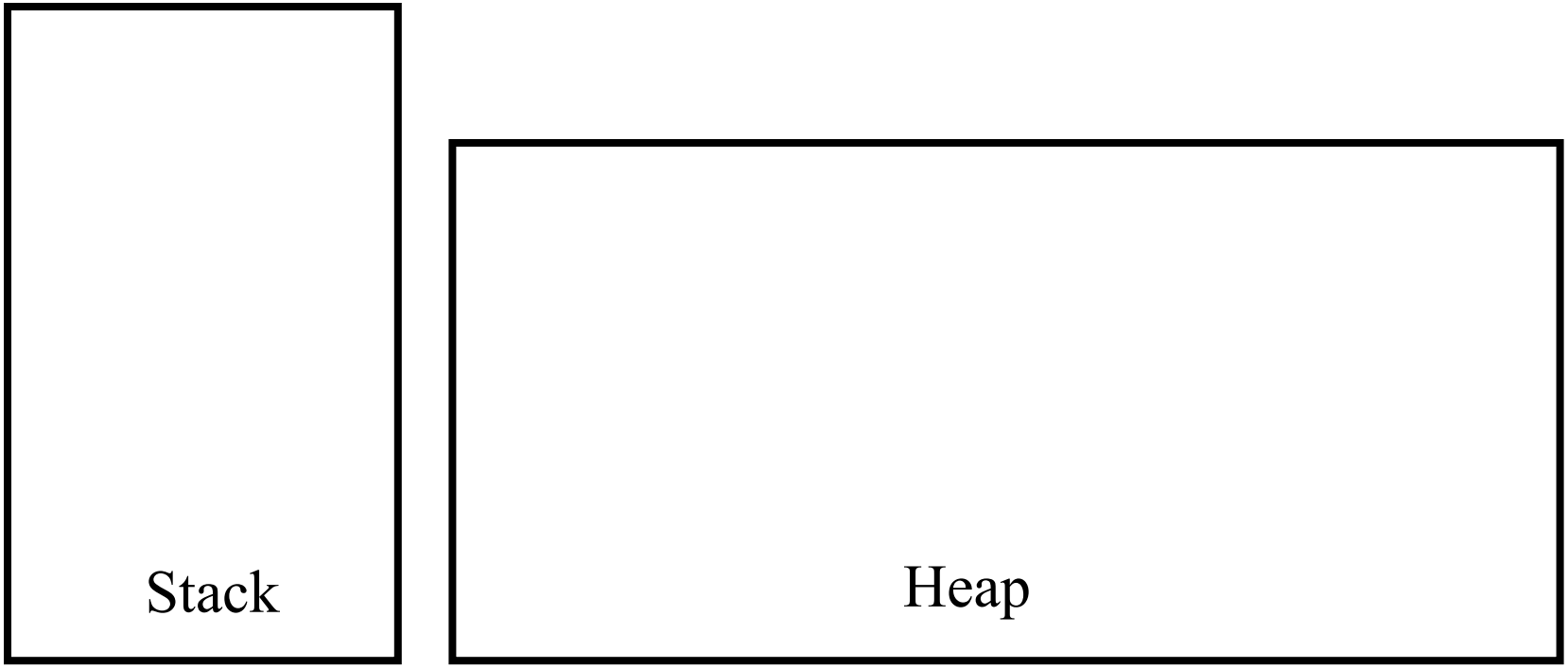
Trace of teststack (Version 4)

```
int main(void)
```



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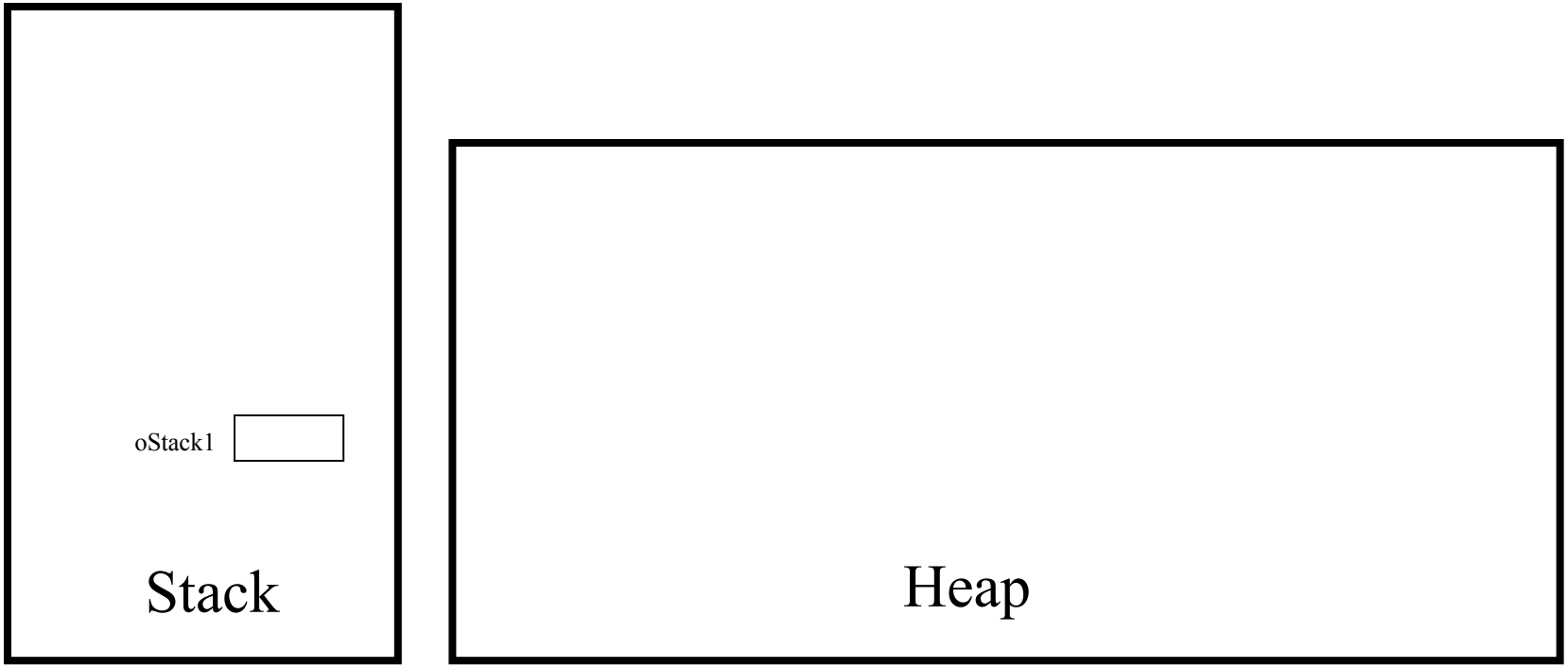
Trace of teststack (Version 4)

```
Stack_T oStack1;
```



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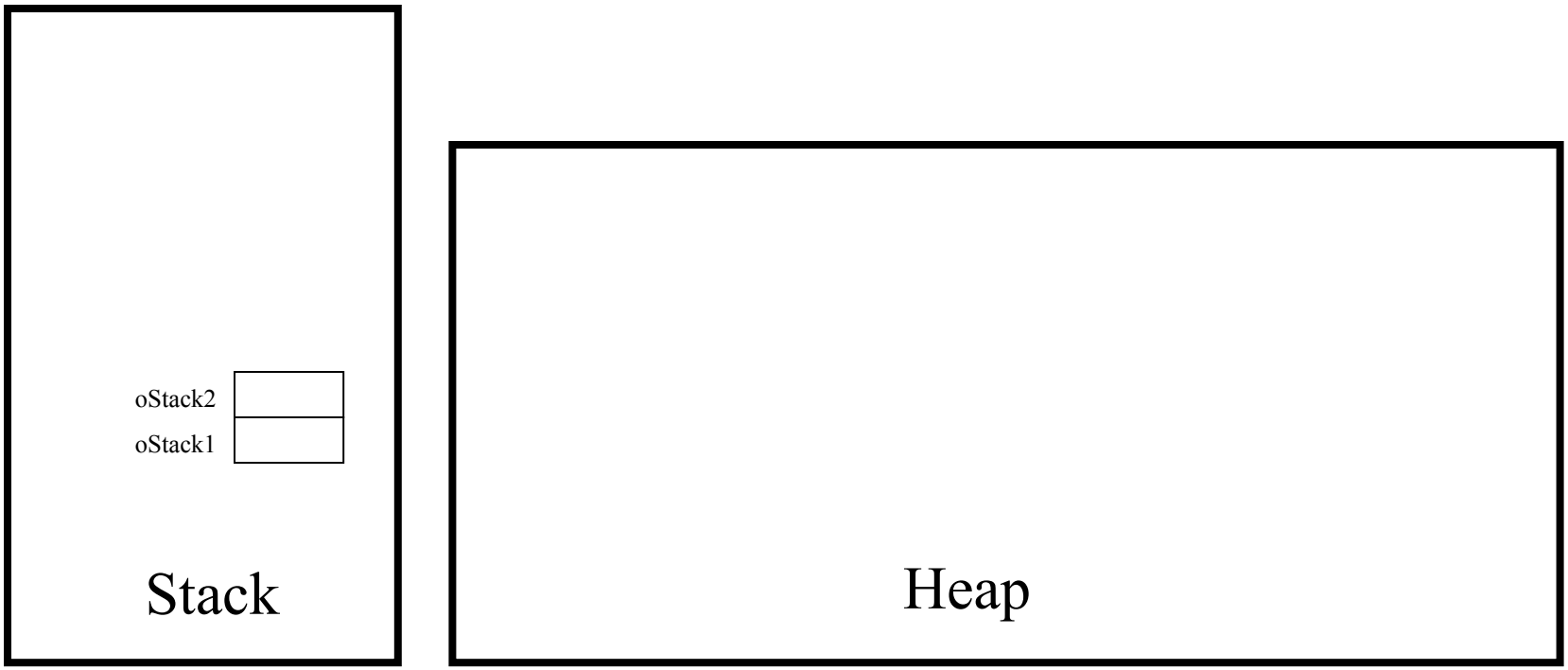
Trace of teststack (Version 4)

```
Stack_T oStack2;
```



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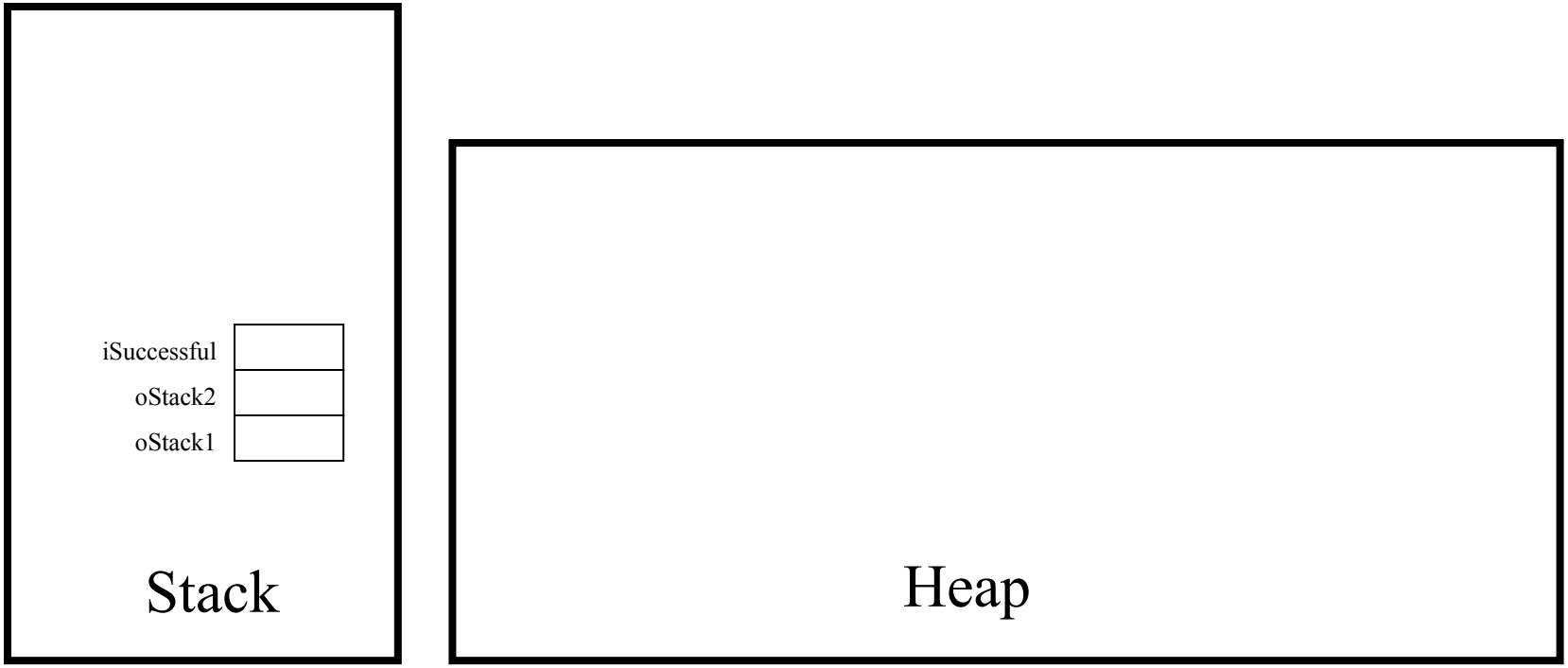
Trace of teststack (Version 4)

```
int iSuccessful;
```



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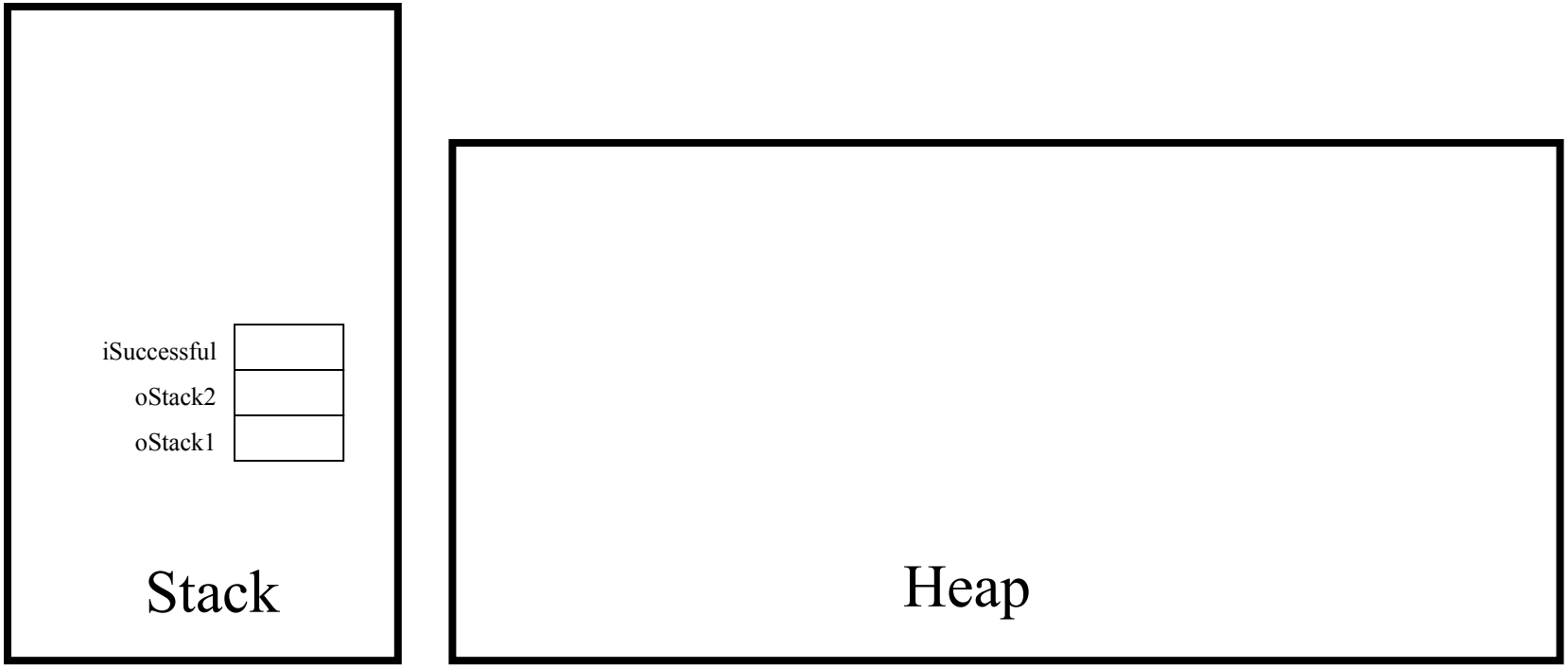
```
oStack1 = Stack_new();
```



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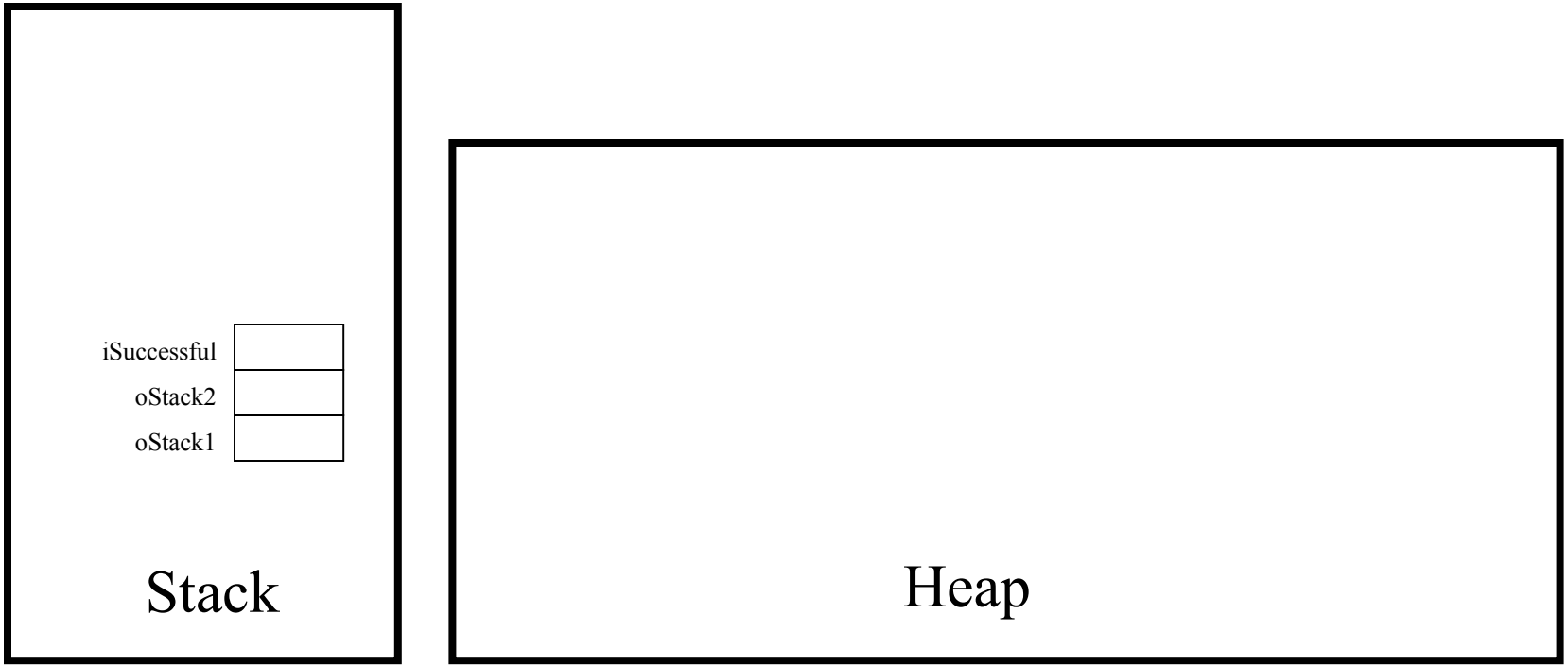
Trace of teststack (Version 4)

```
Stack_T Stack_new(void)
```



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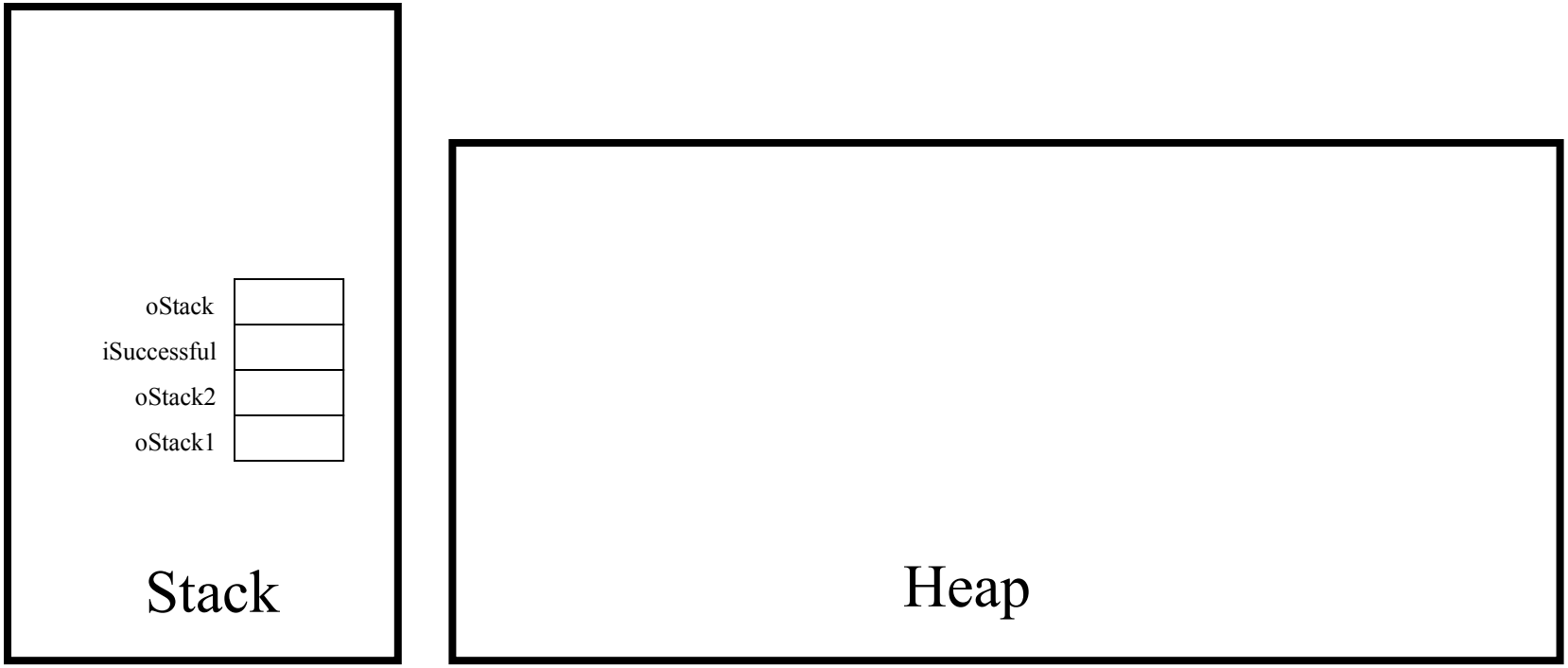
Trace of teststack (Version 4)

```
Stack_T oStack;
```



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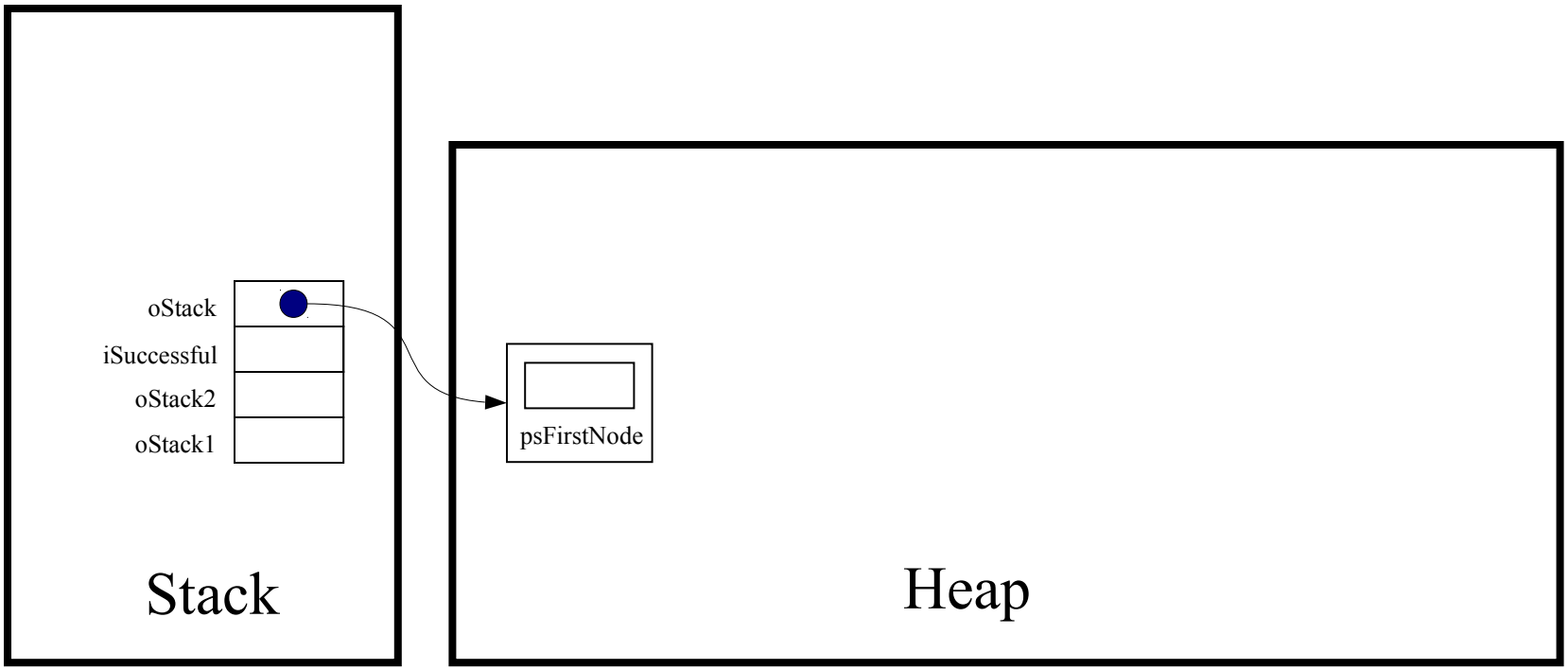
Trace of teststack (Version 4)

```
oStack = (Stack_T)malloc(sizeof(struct Stack);
```



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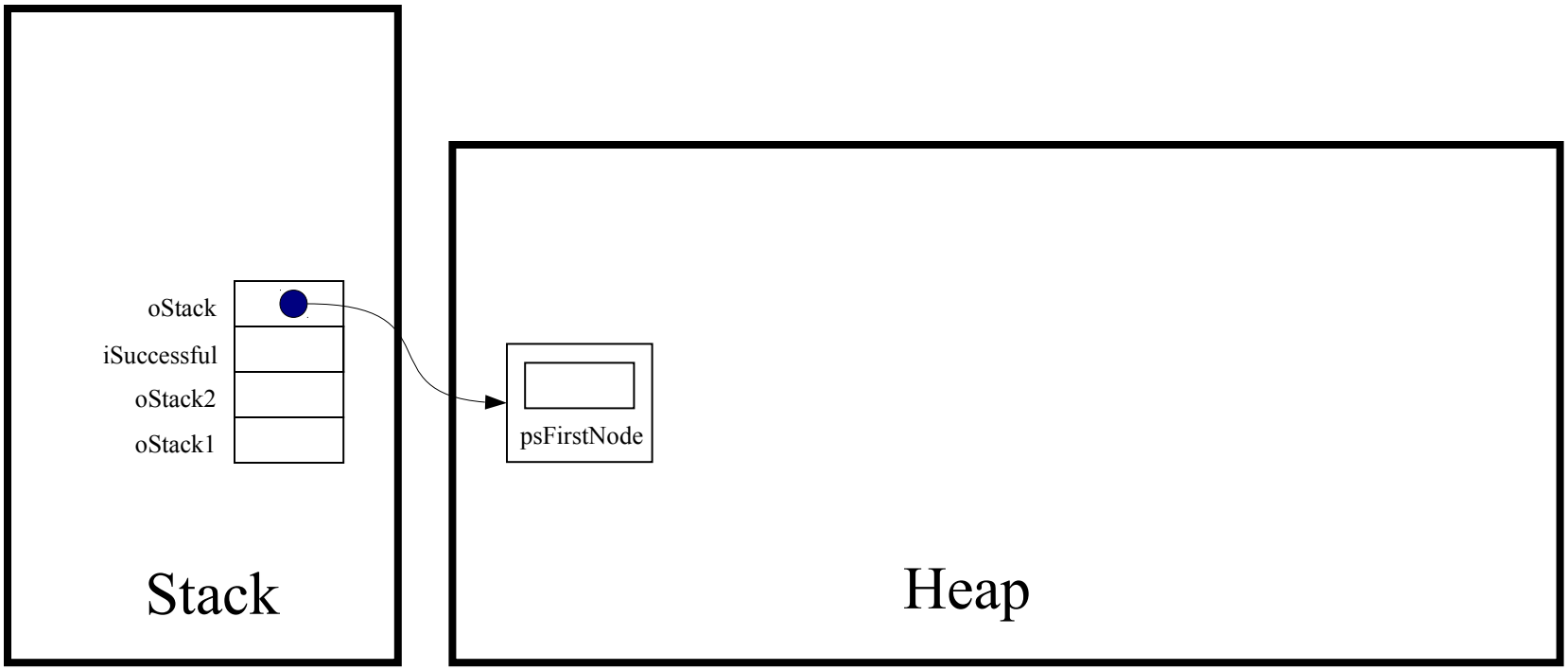
```
if (oStack == NULL)
   return NULL;'
```



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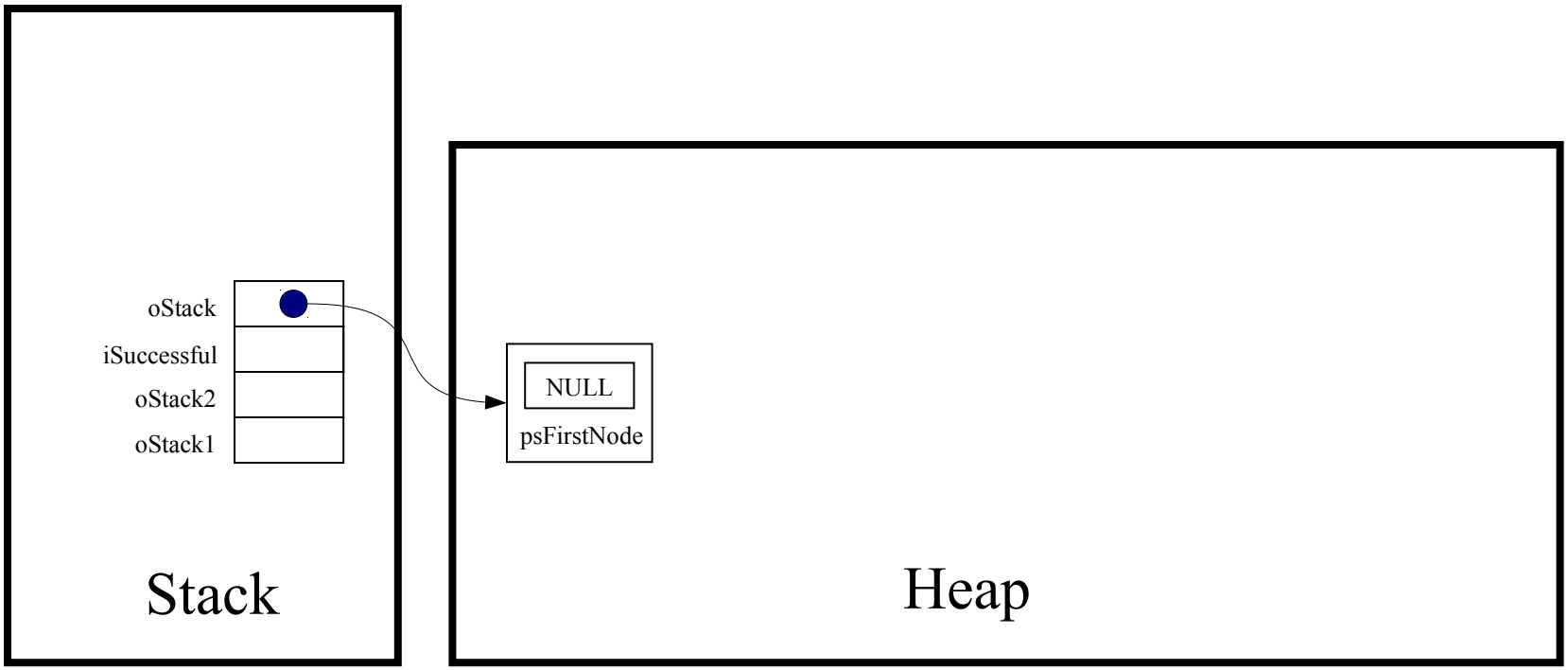
Trace of teststack (Version 4)

```
oStack->psFirstNode = NULL;
```



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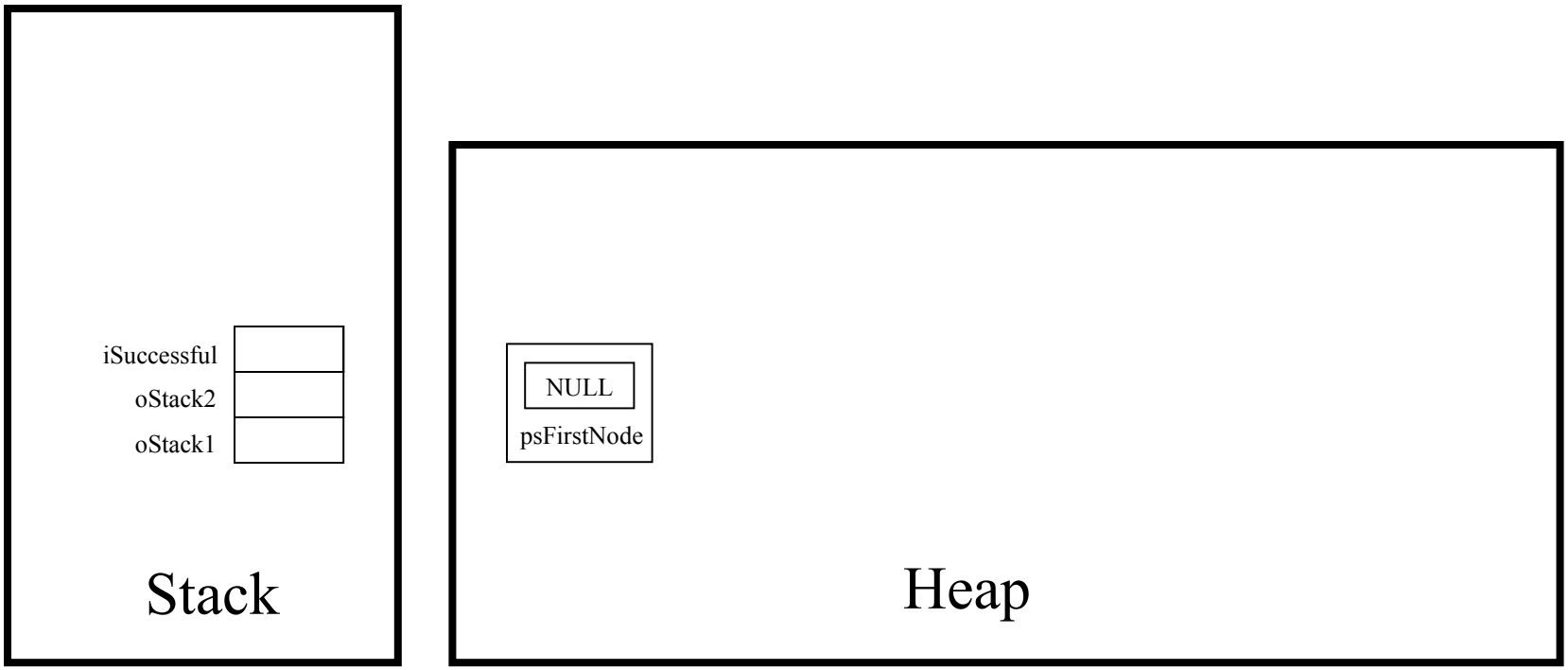
```
return oStack;
```



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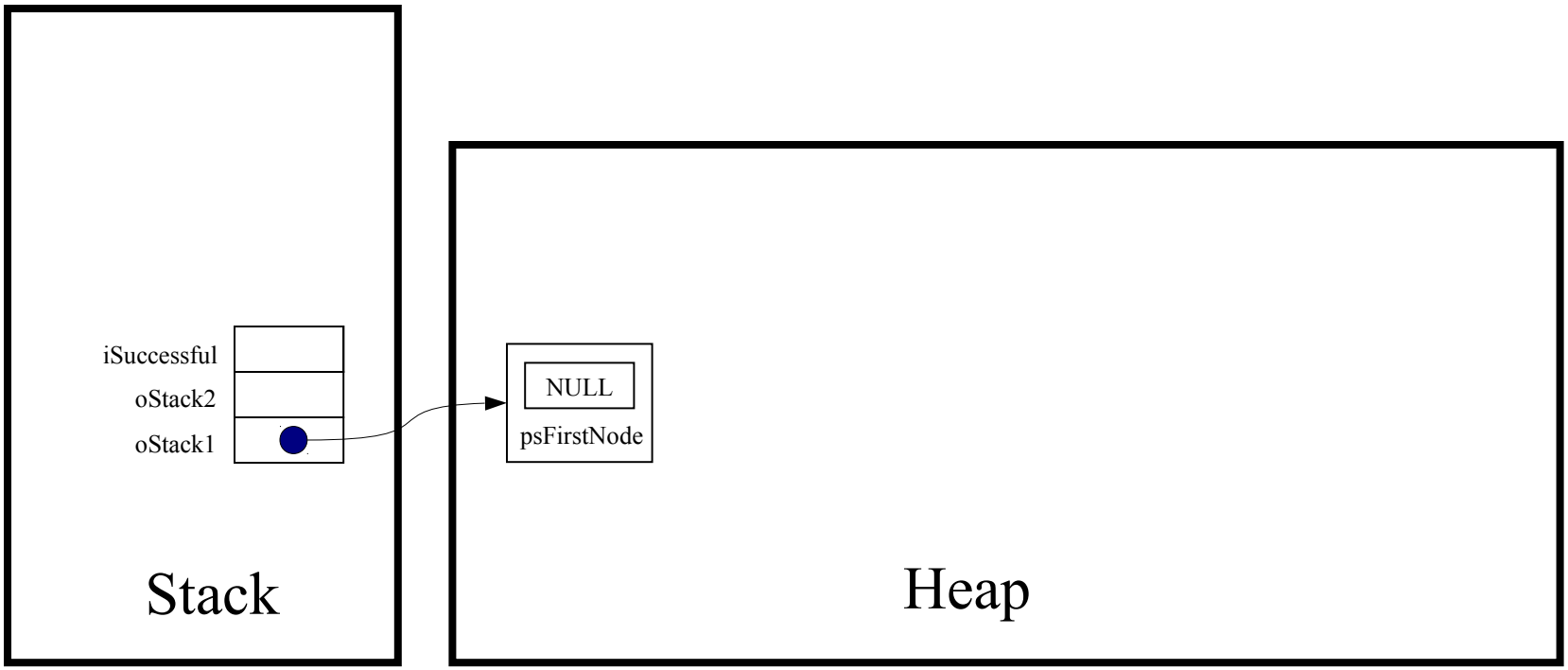
```
oStack1 = Stack(new);
```



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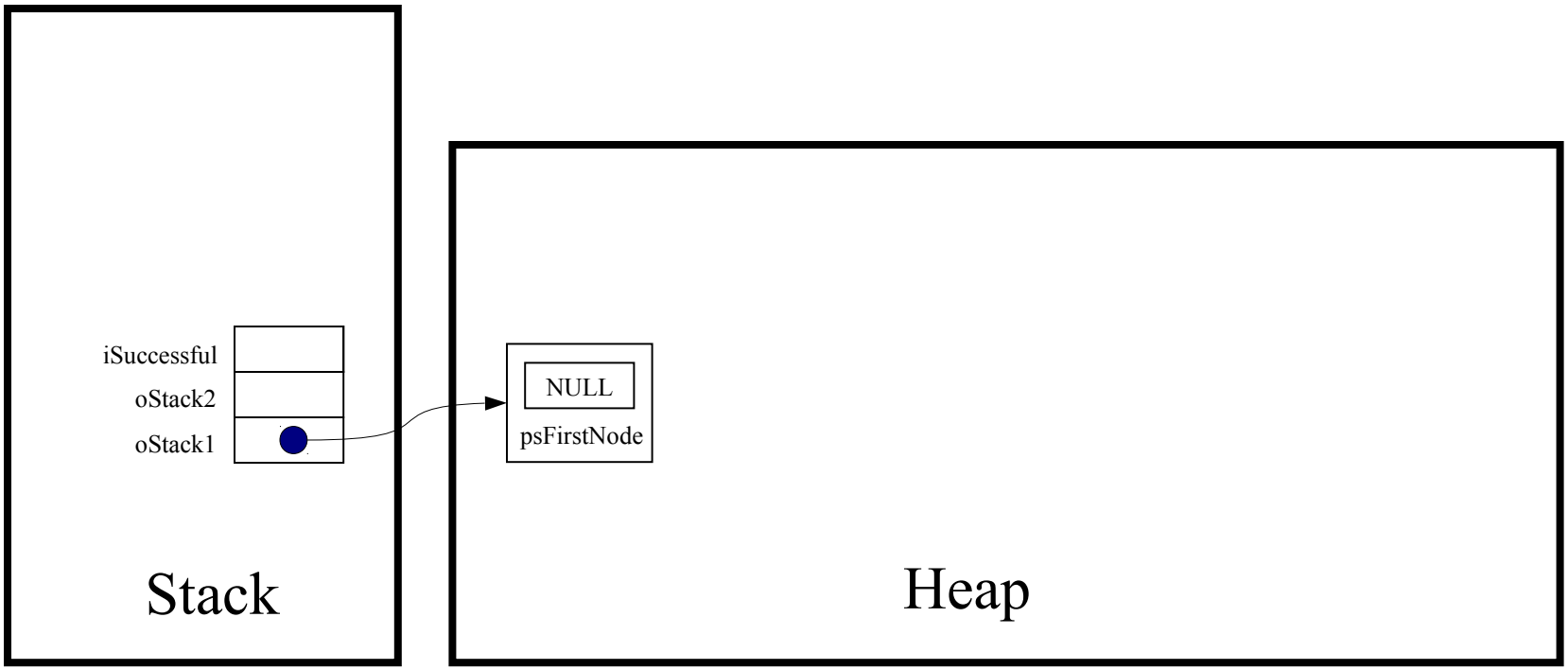
```
if (oStack1 == NULL) handleMemoryError();
```



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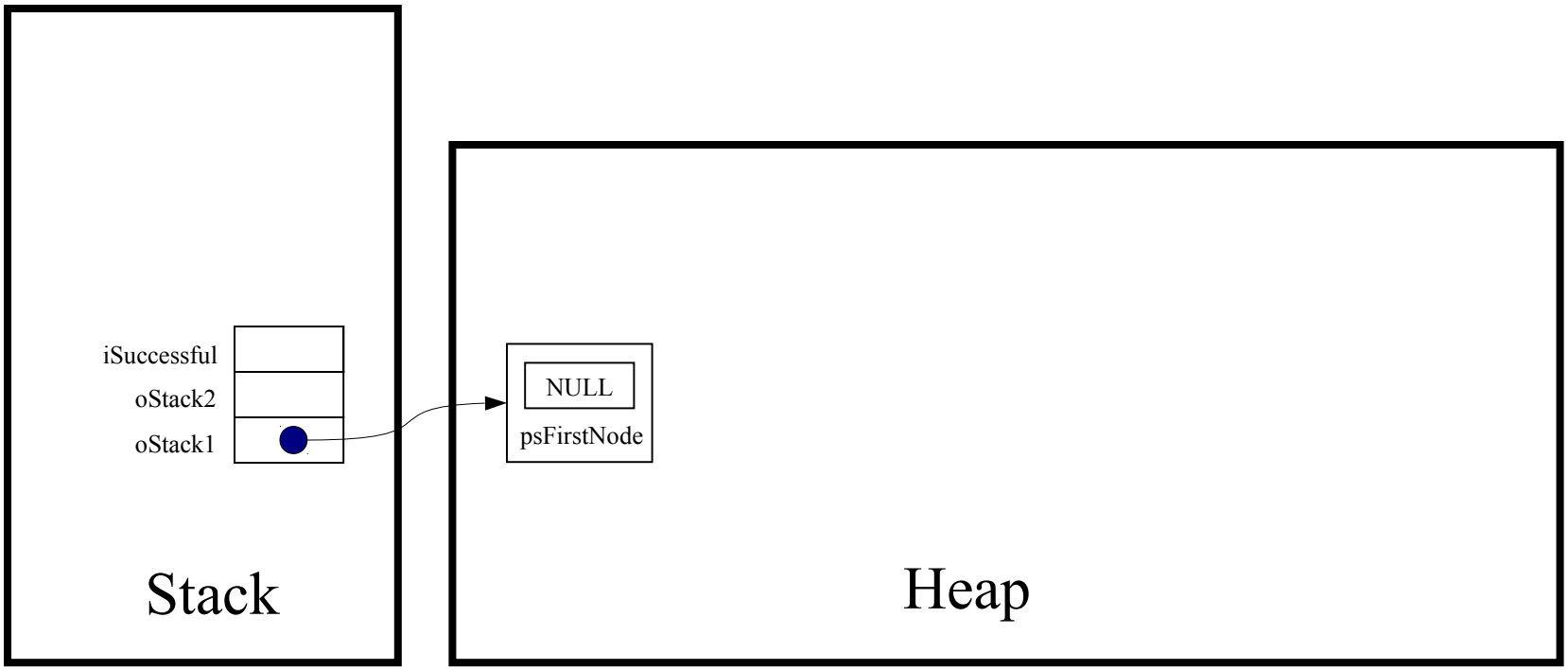
```
iSuccessful = Stack_push(oStack1, 1.1);
```



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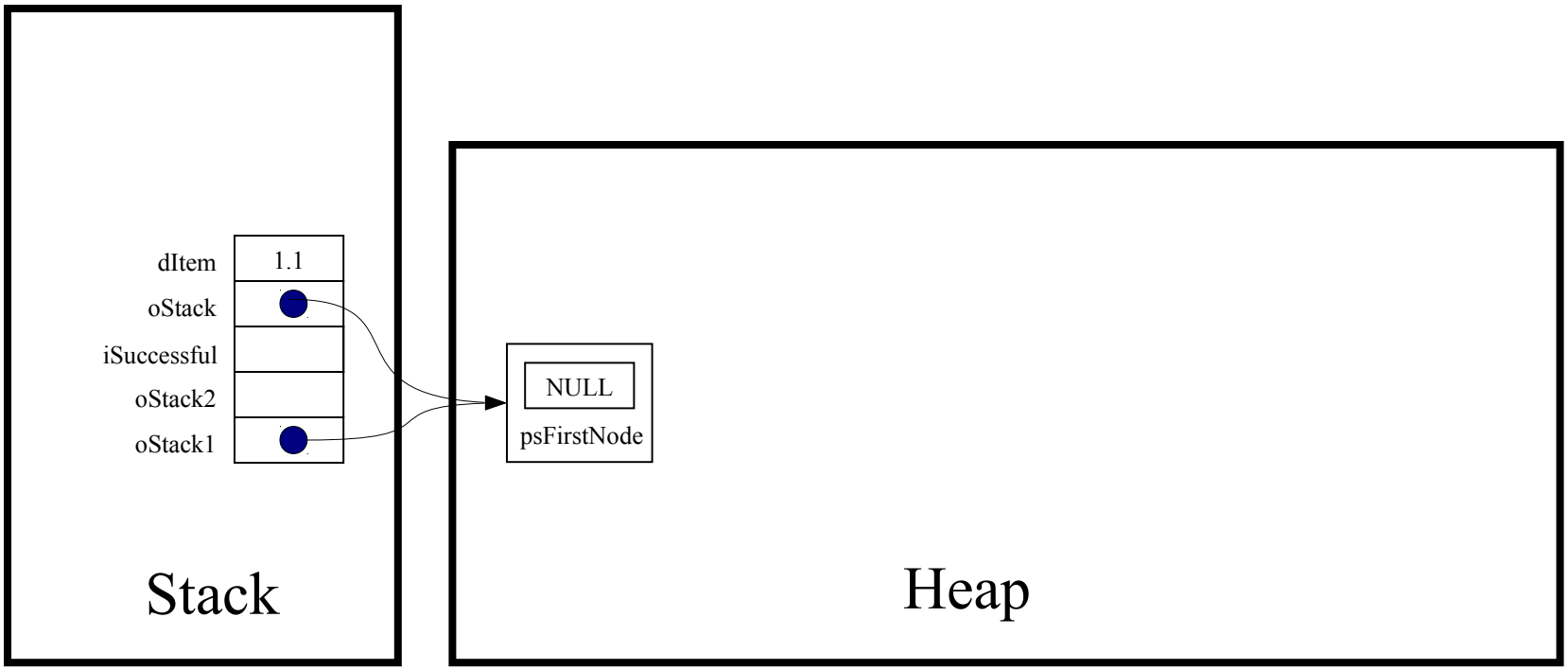
```
int Stack_push(Stack_T oStack, double dItem)
```



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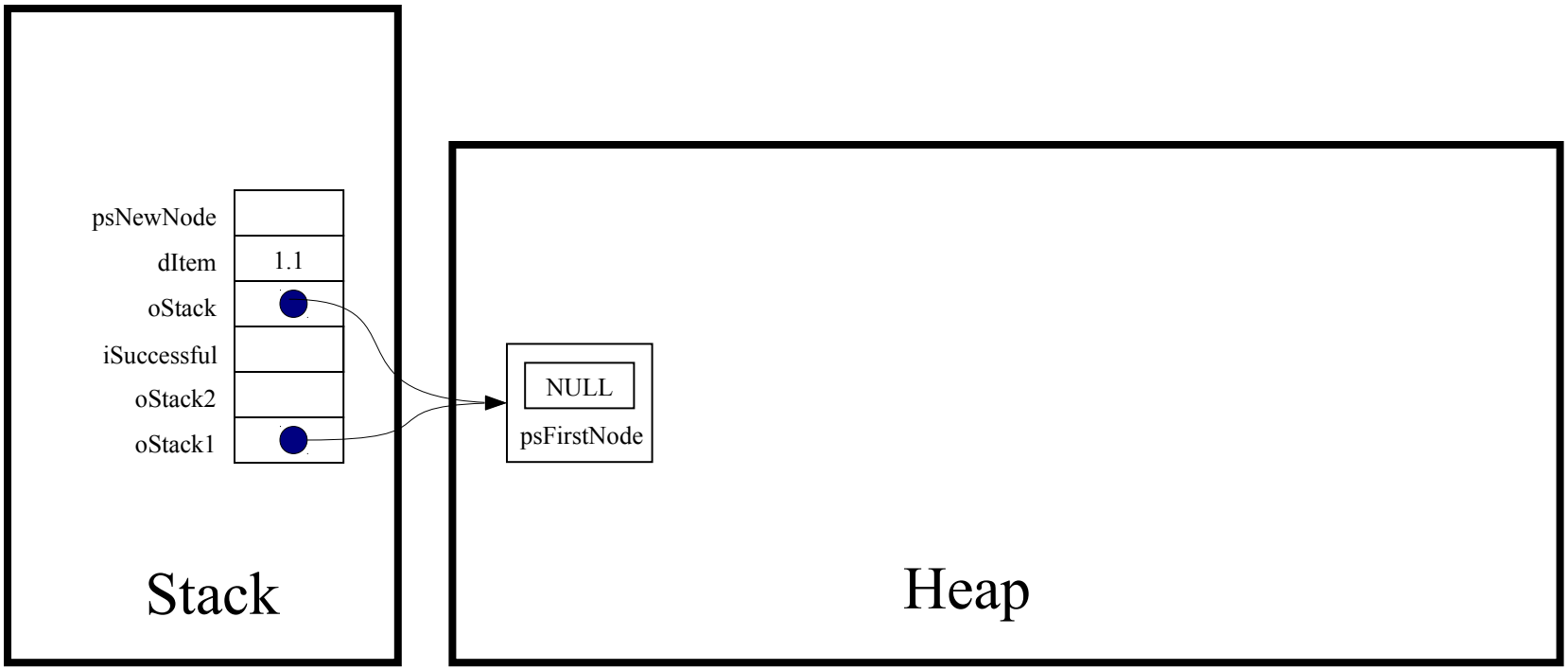
```
struct StackNode *psNewNode;
```



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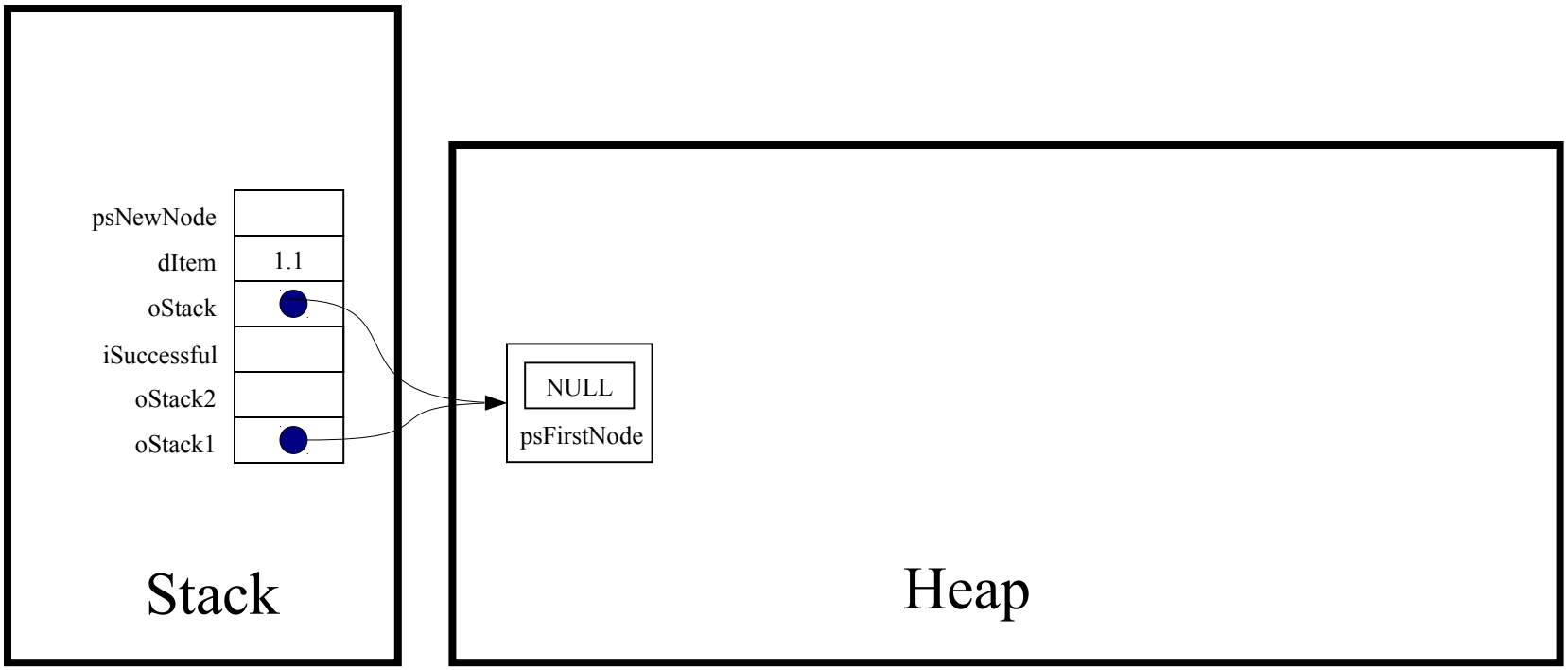
```
assert(oStack != NULL);
```



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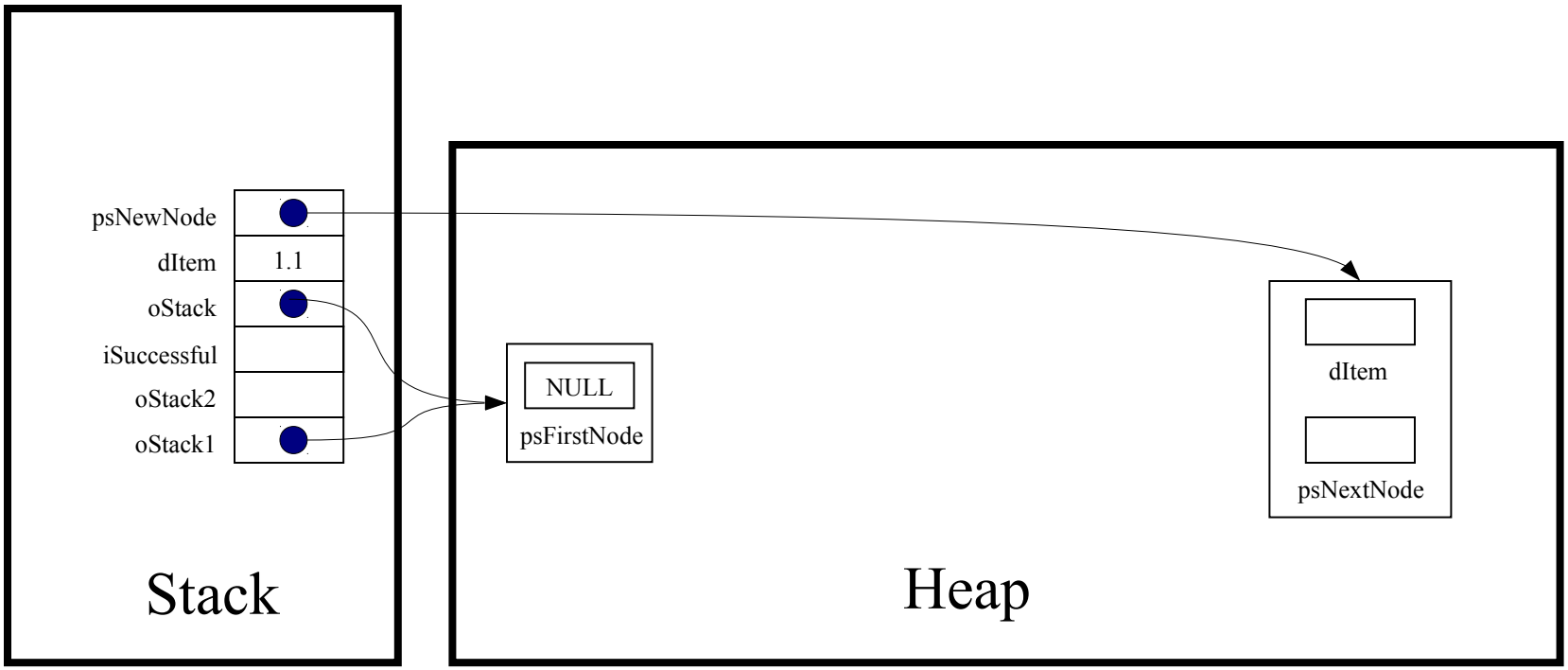
```
psNewNode = (struct StackNode*)malloc(sizeof(struct StackNode);
```



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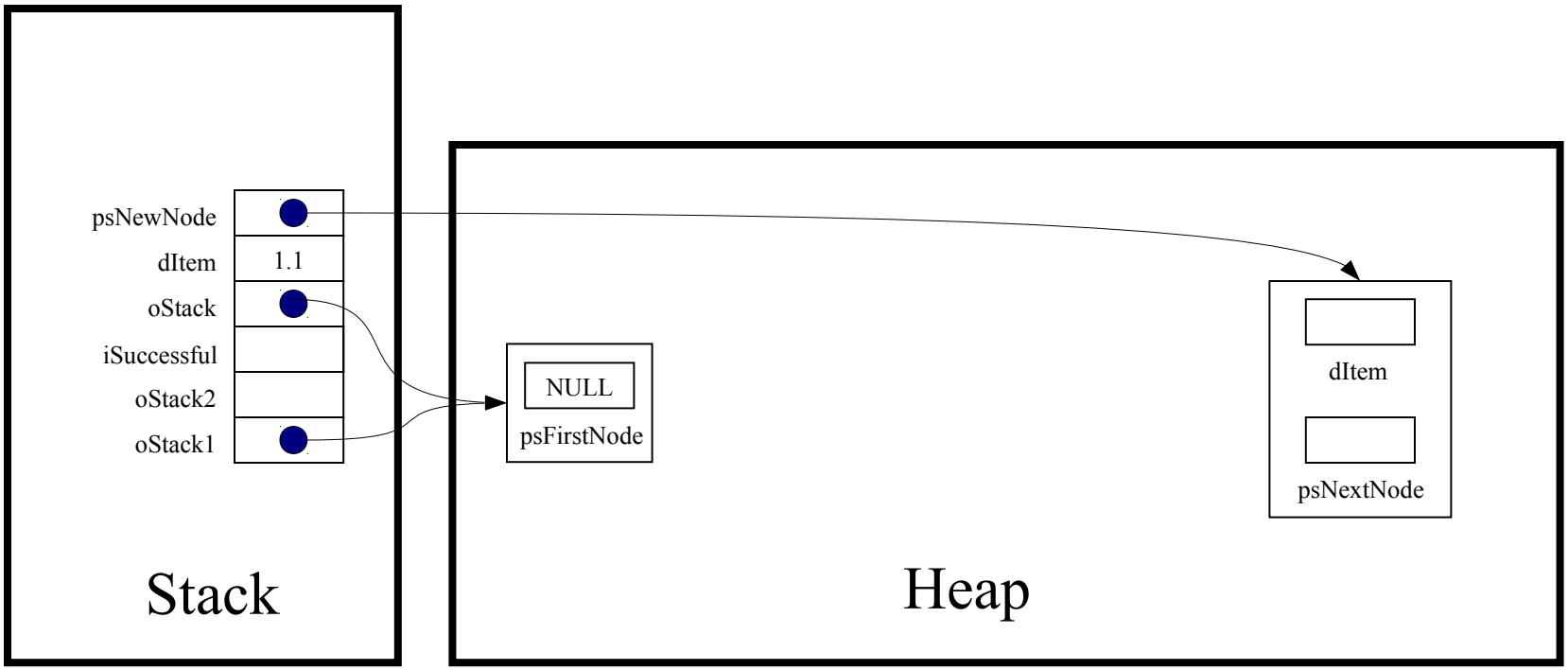
```
if (psNewNode == NULL)
   return 0;
```



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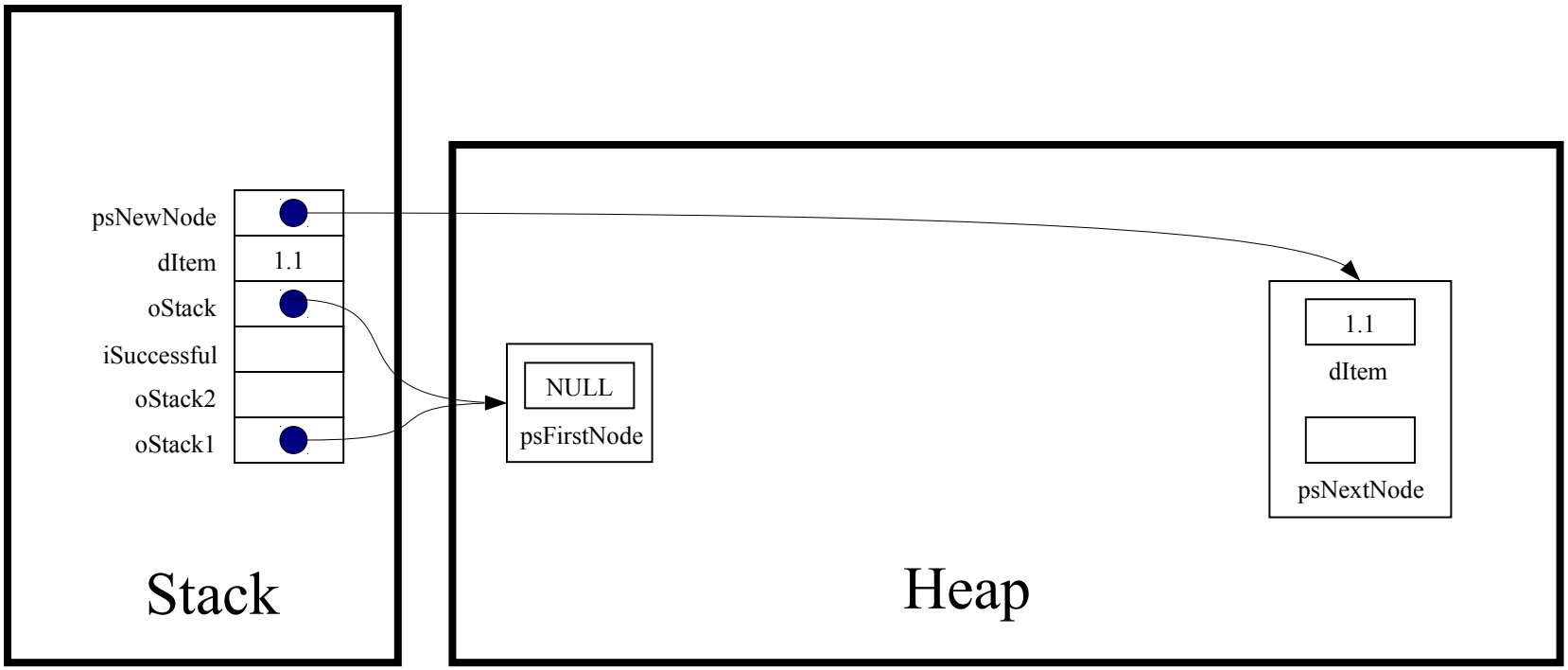
```
psNewNode->dItem = dItem;
```



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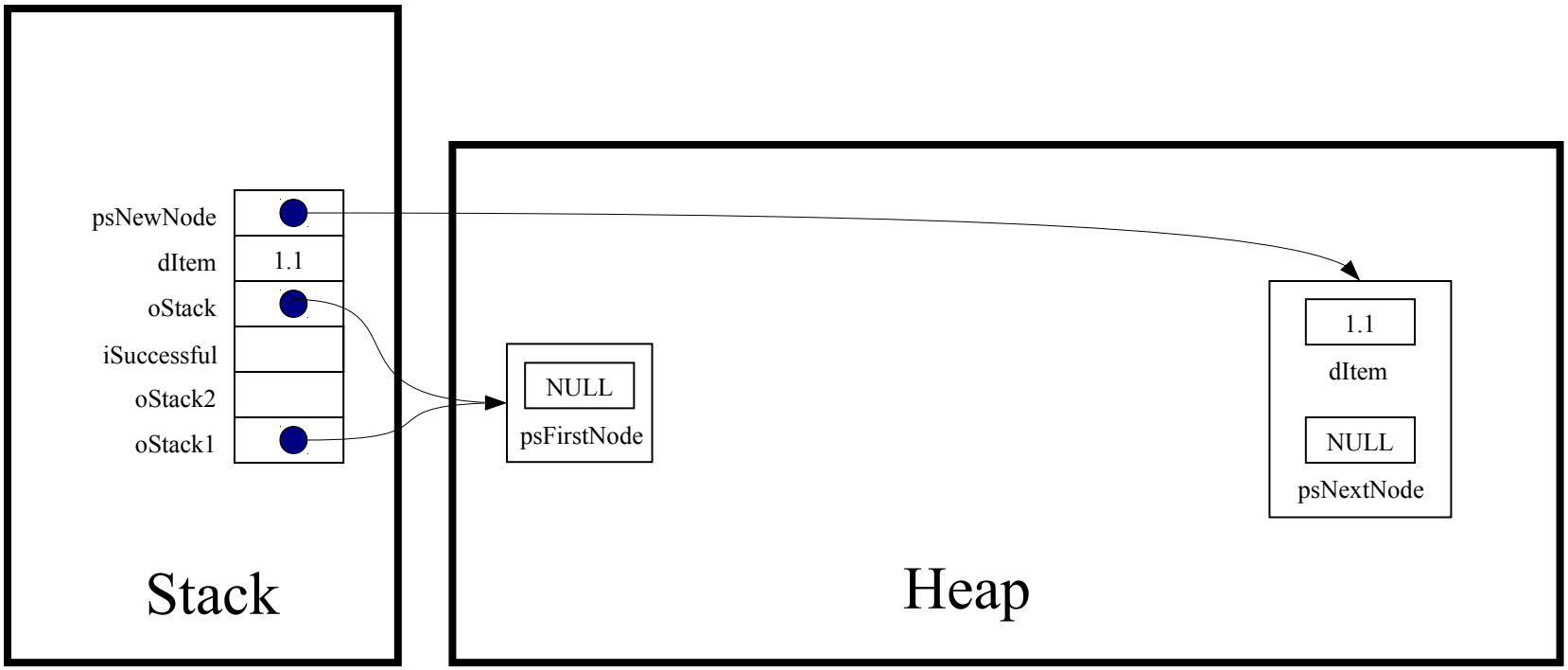
```
psNewNode->psNextNode = oStack→psFirstNode;
```



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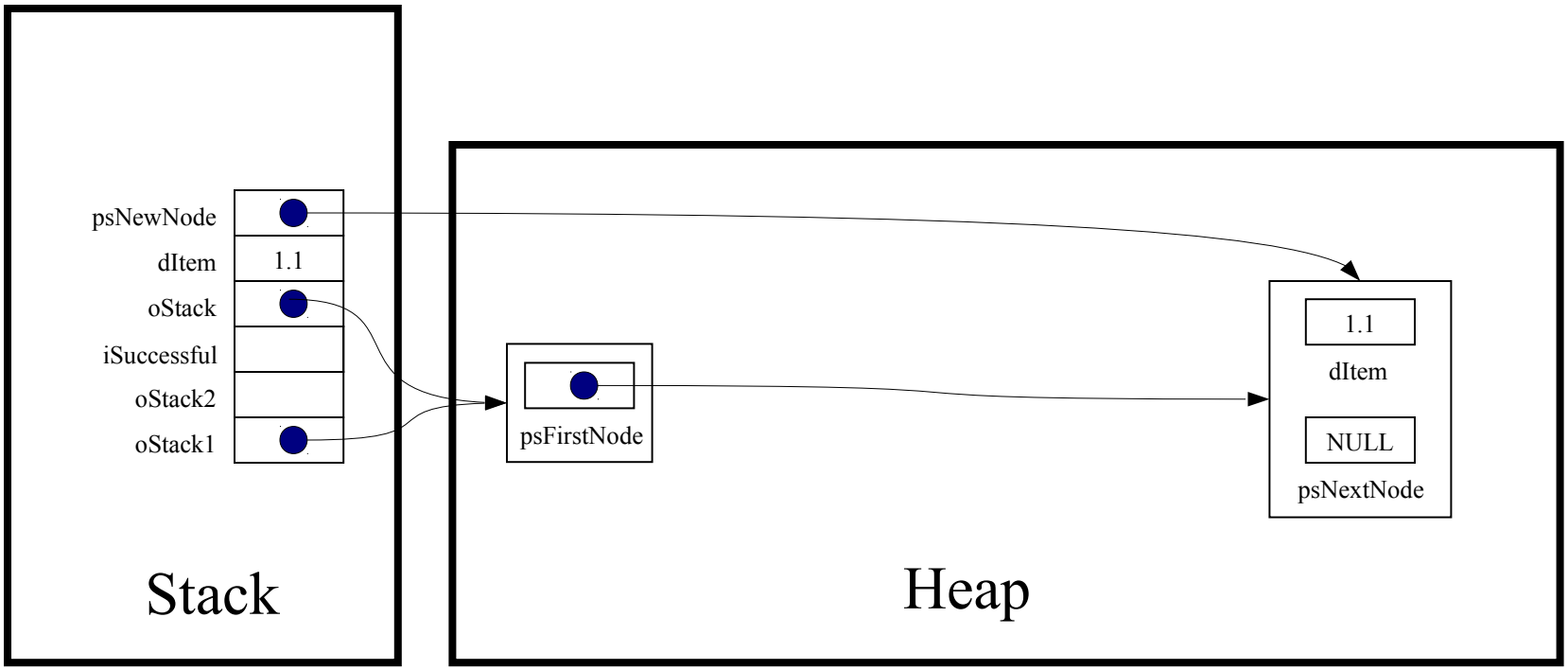
```
oStack→psFirstNode = psNewNode;
```



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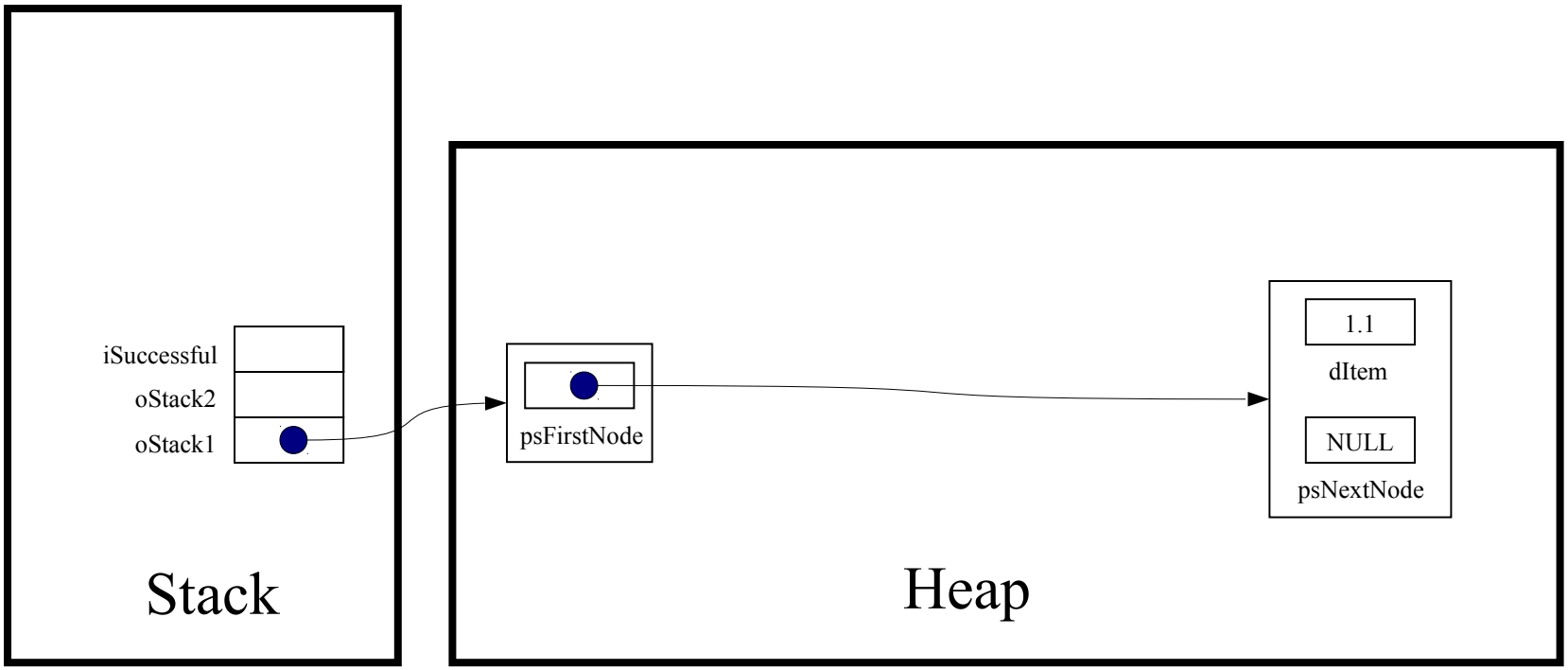
```
return 1;
```



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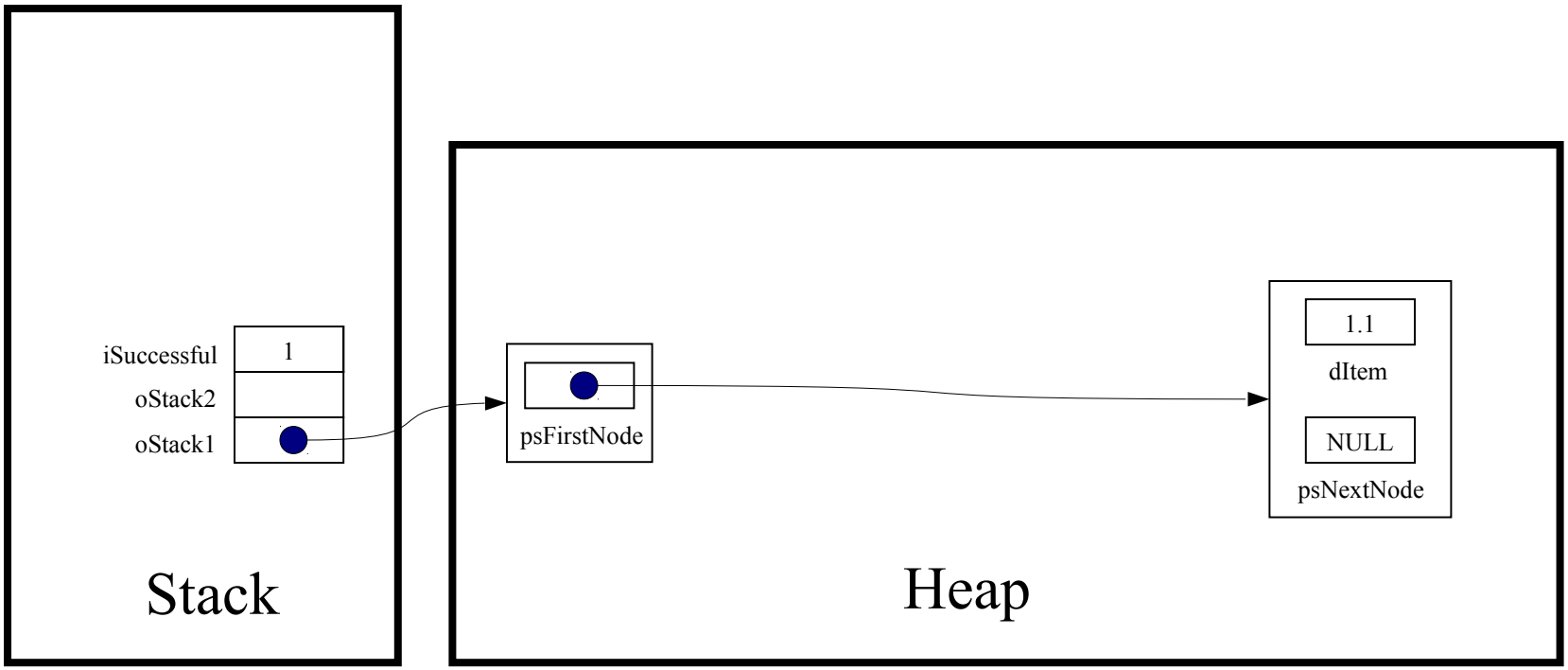
```
iSuccessful = Stack_push(oStack1, 1.1);
```



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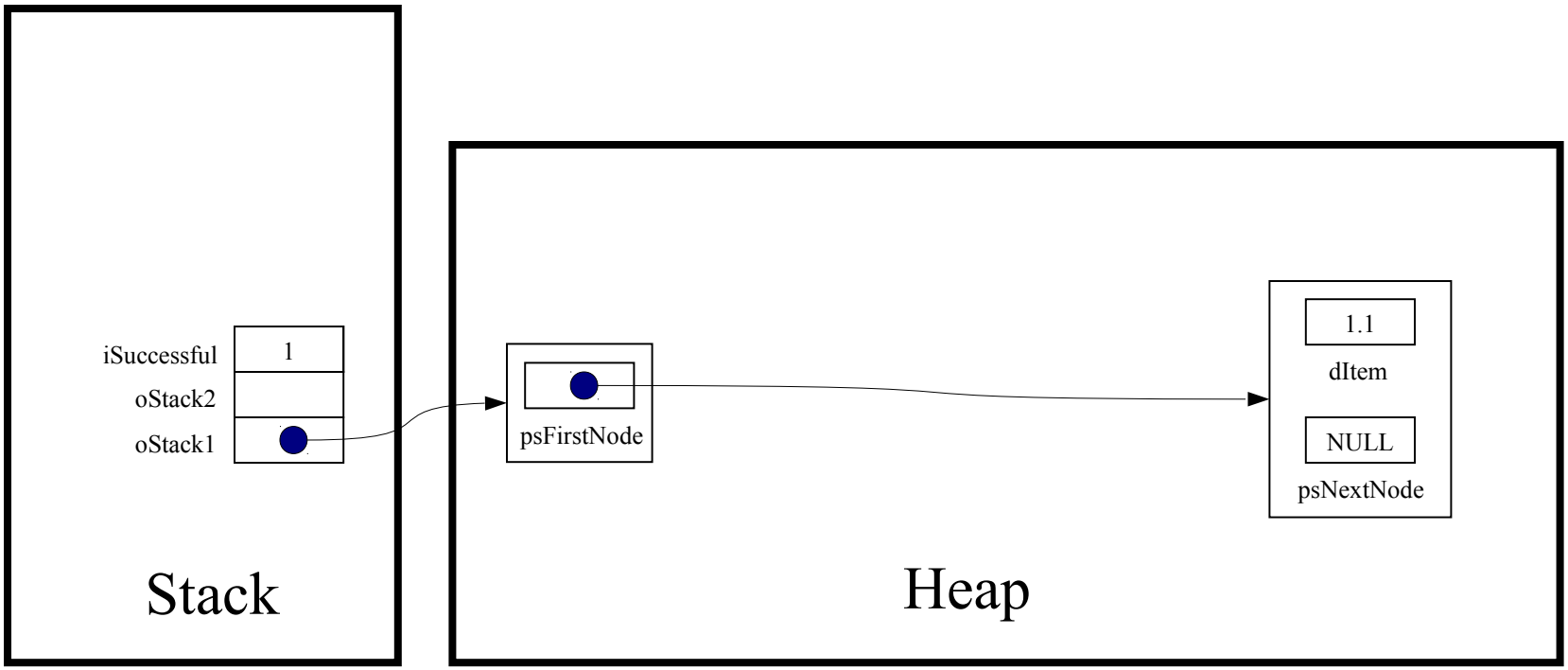
```
if (! iSuccessful) handleMemoryError();
```



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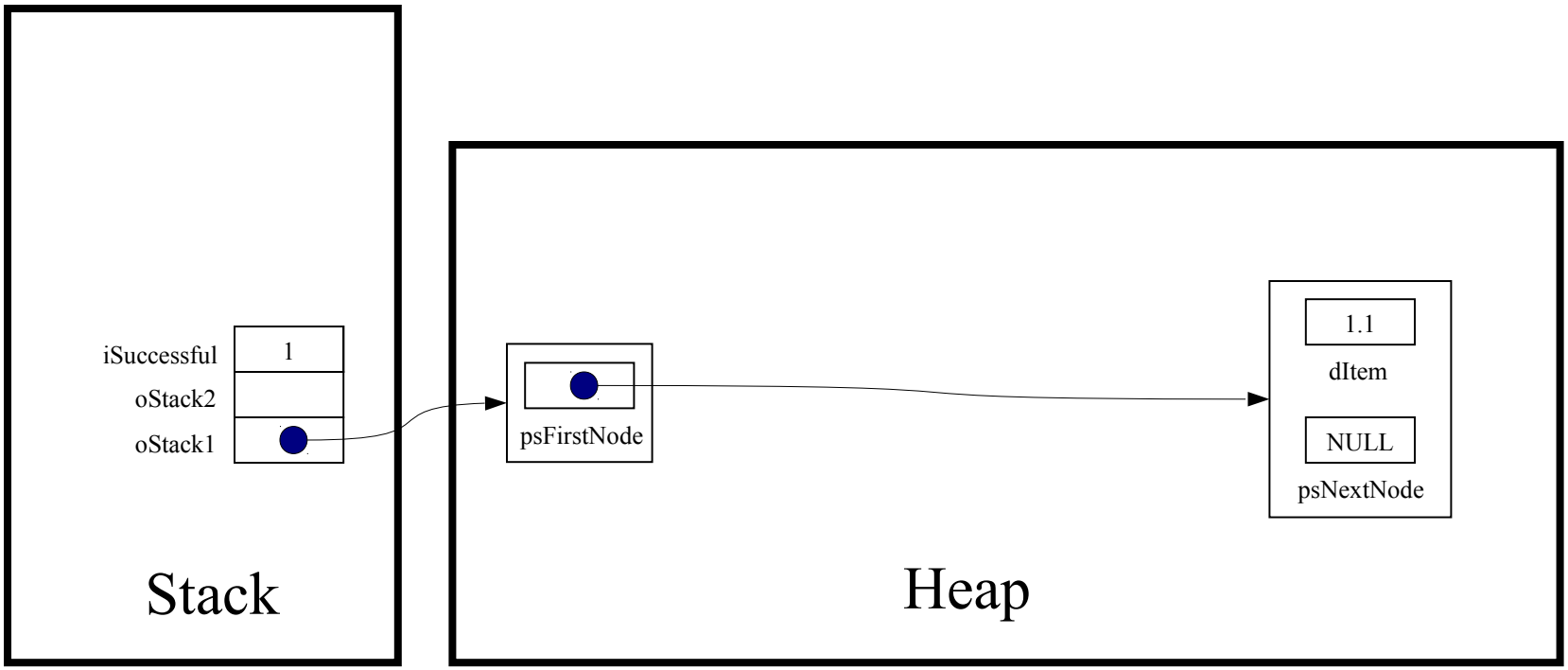
```
iSuccessful = Stack_push(oStack1, 2.2);
```



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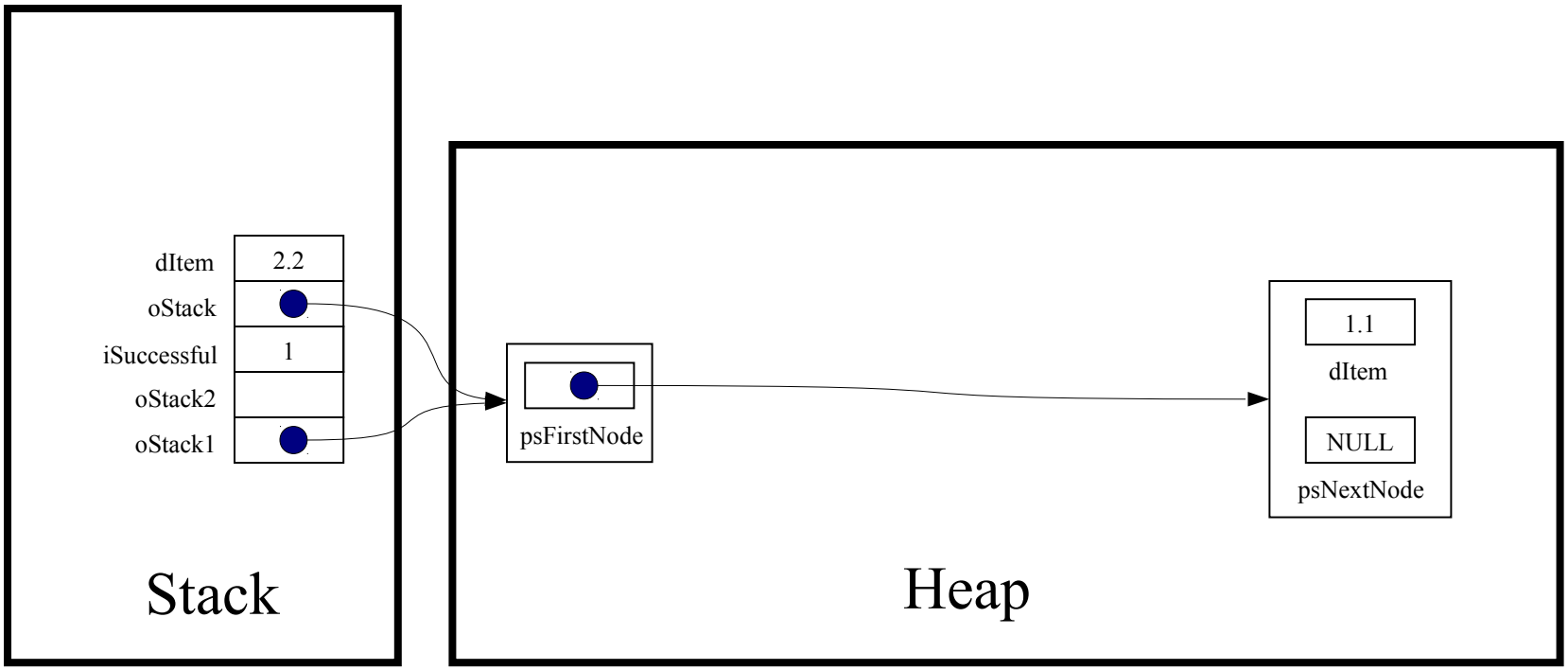
```
int Stack_push(Stack_T oStack, double dItem)
```



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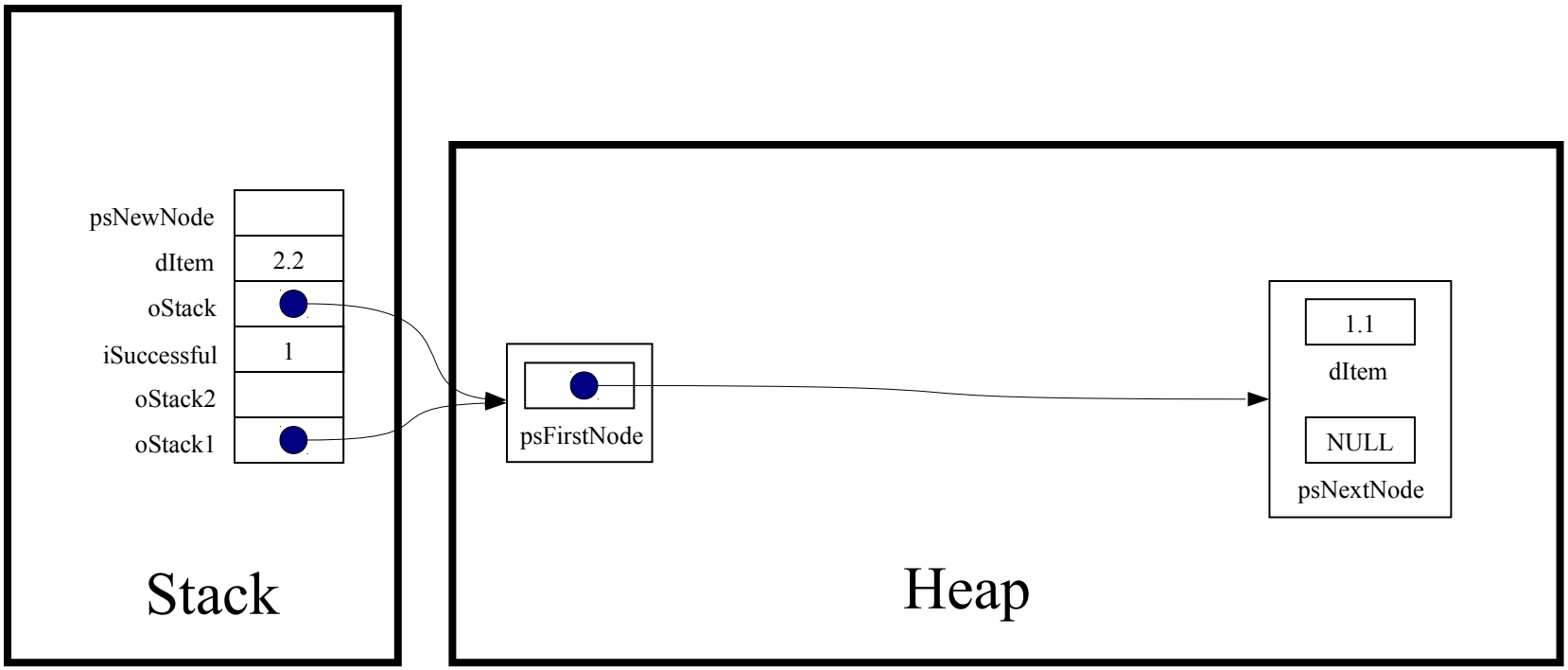
Trace of teststack (Version 4)

```
struct StackNode *psNewNode;
```



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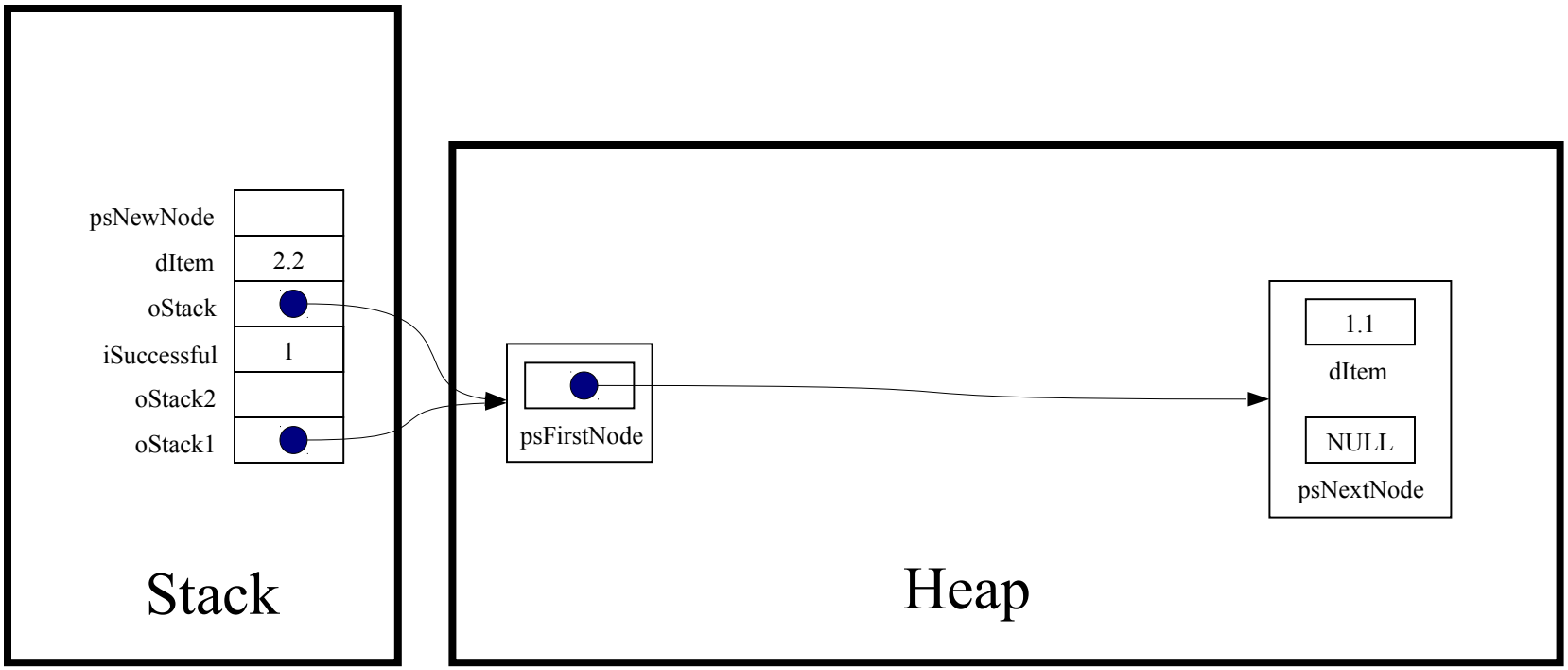
```
assert(oStack != NULL);
```



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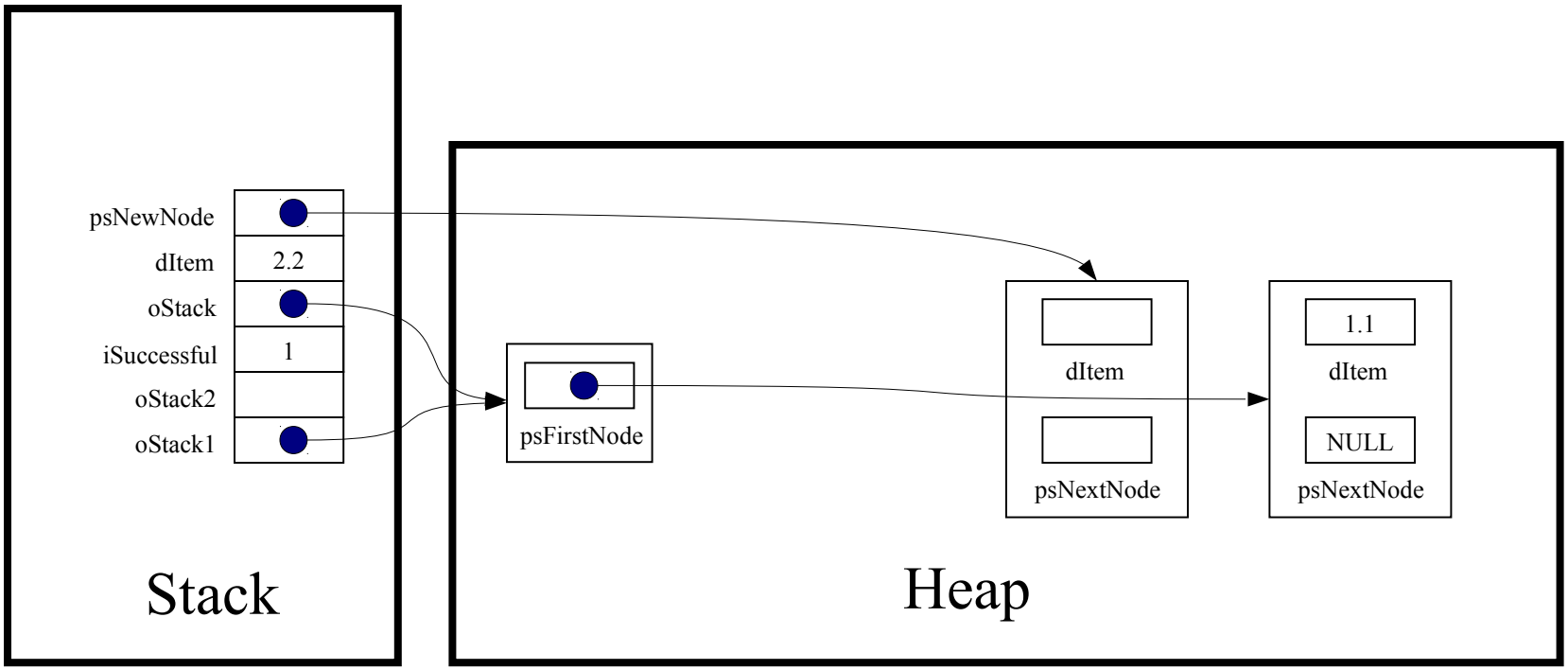
```
psNewNode = (struct StackNode*)malloc(sizeof(struct StackNode);
```



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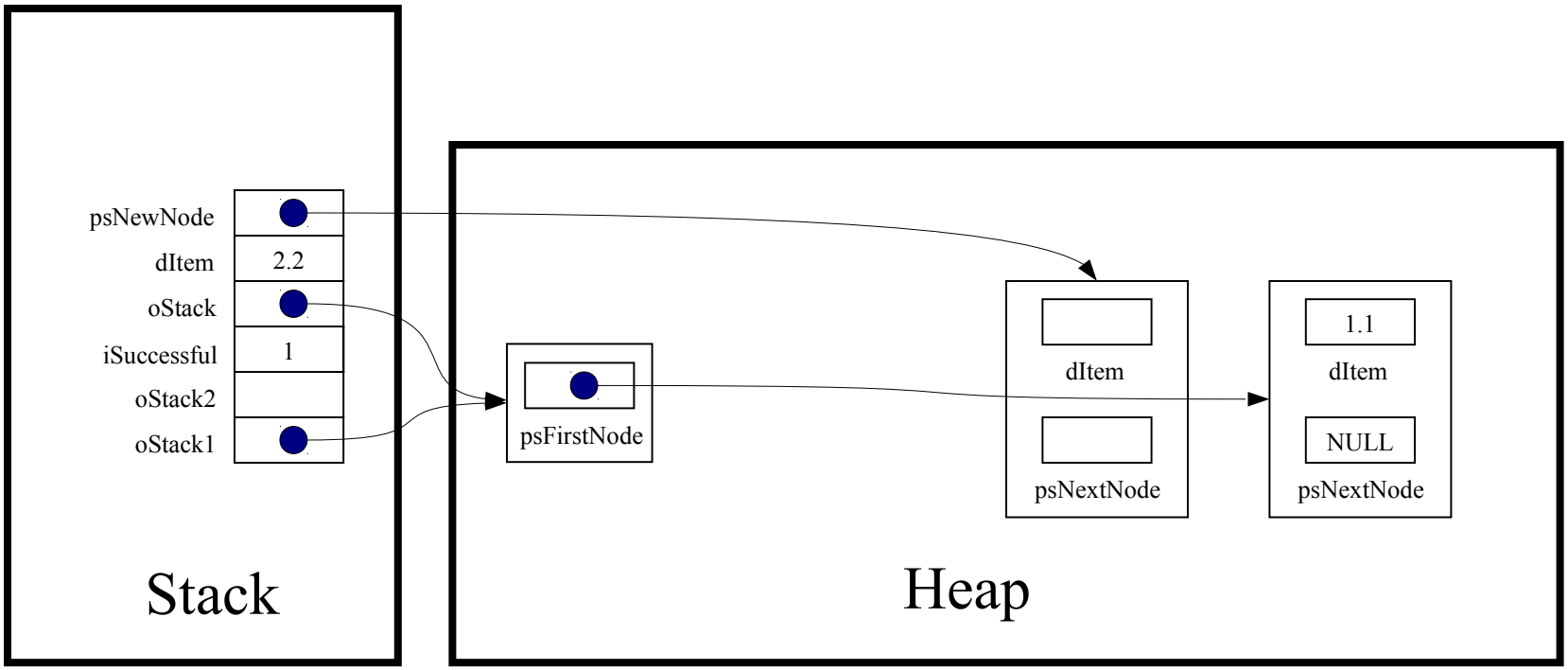
```
if (psNewNode == NULL)
   return 0;
```



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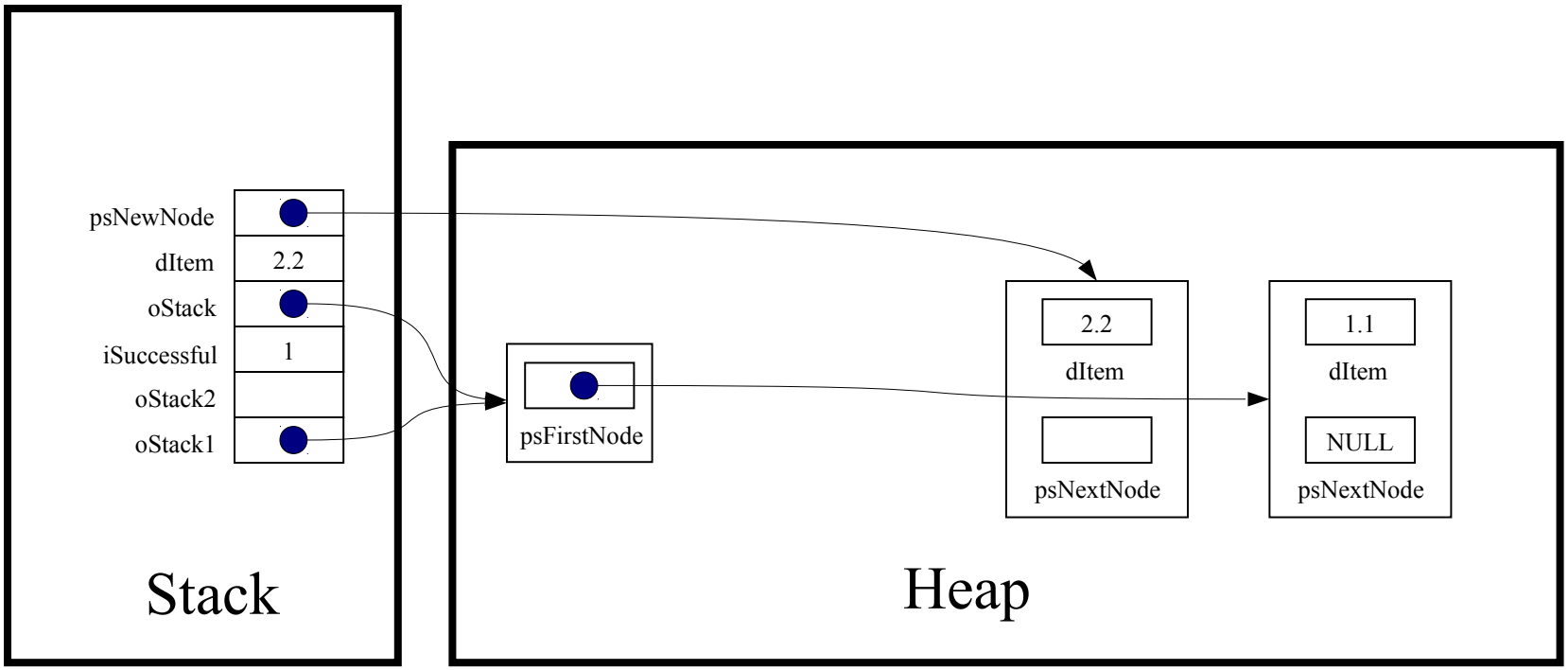
```
psNewNode->dItem = dItem;
```



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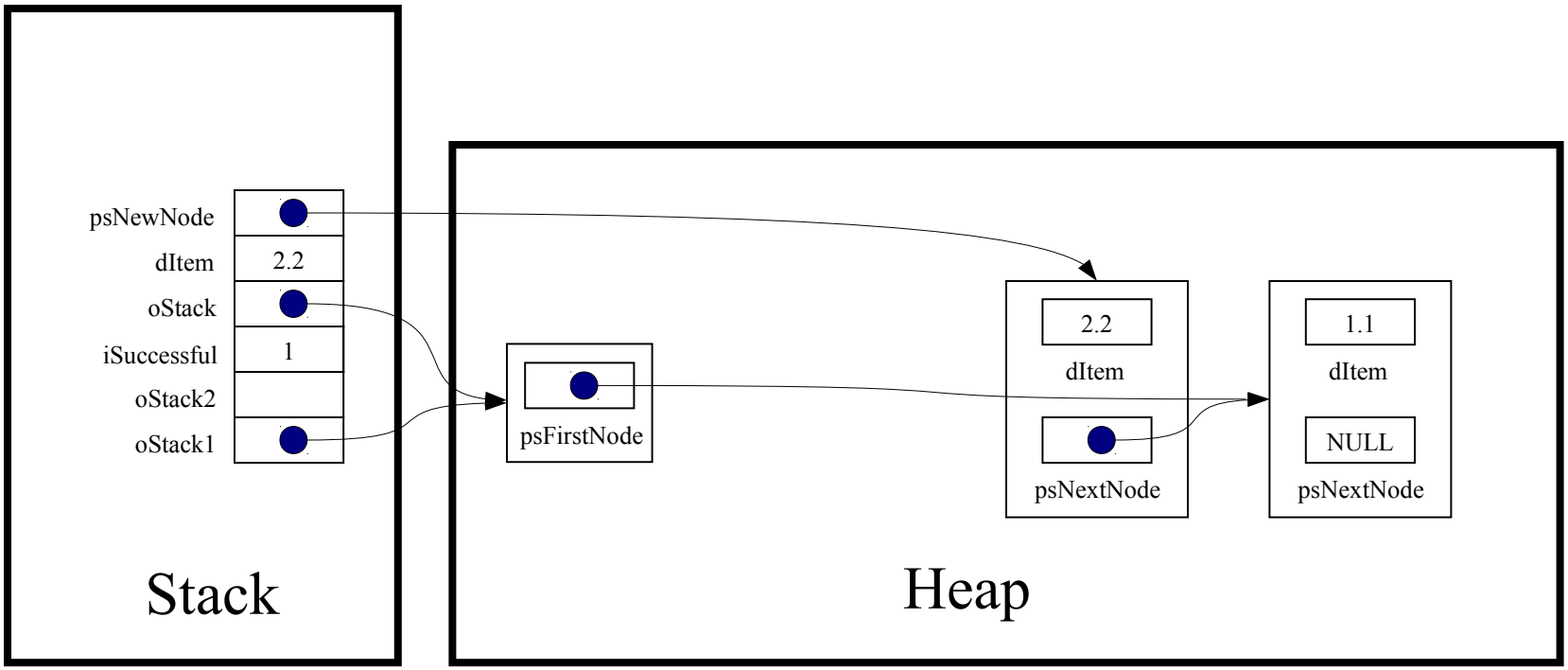
```
psNewNode->psNextNode = oStack->psFirstNode;
```



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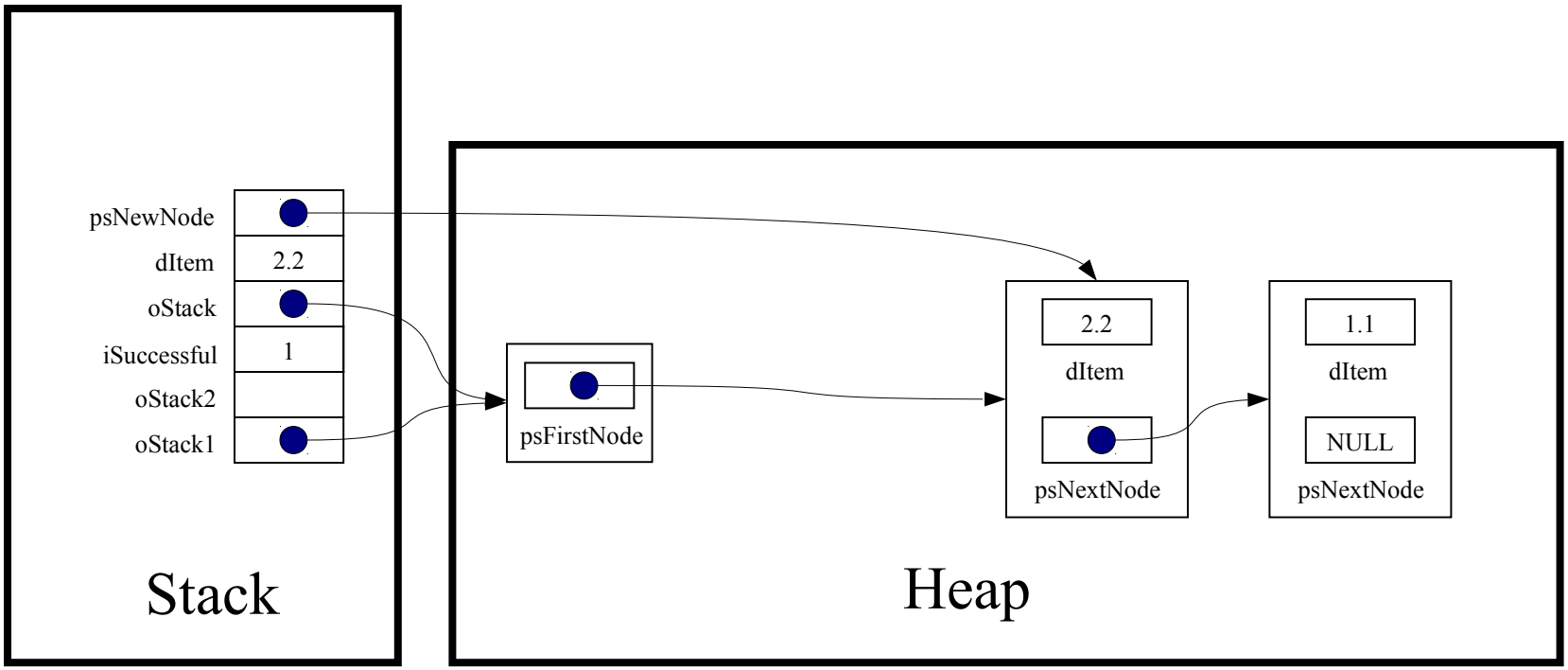
```
oStack->psFirstNode = psNewNode;
```



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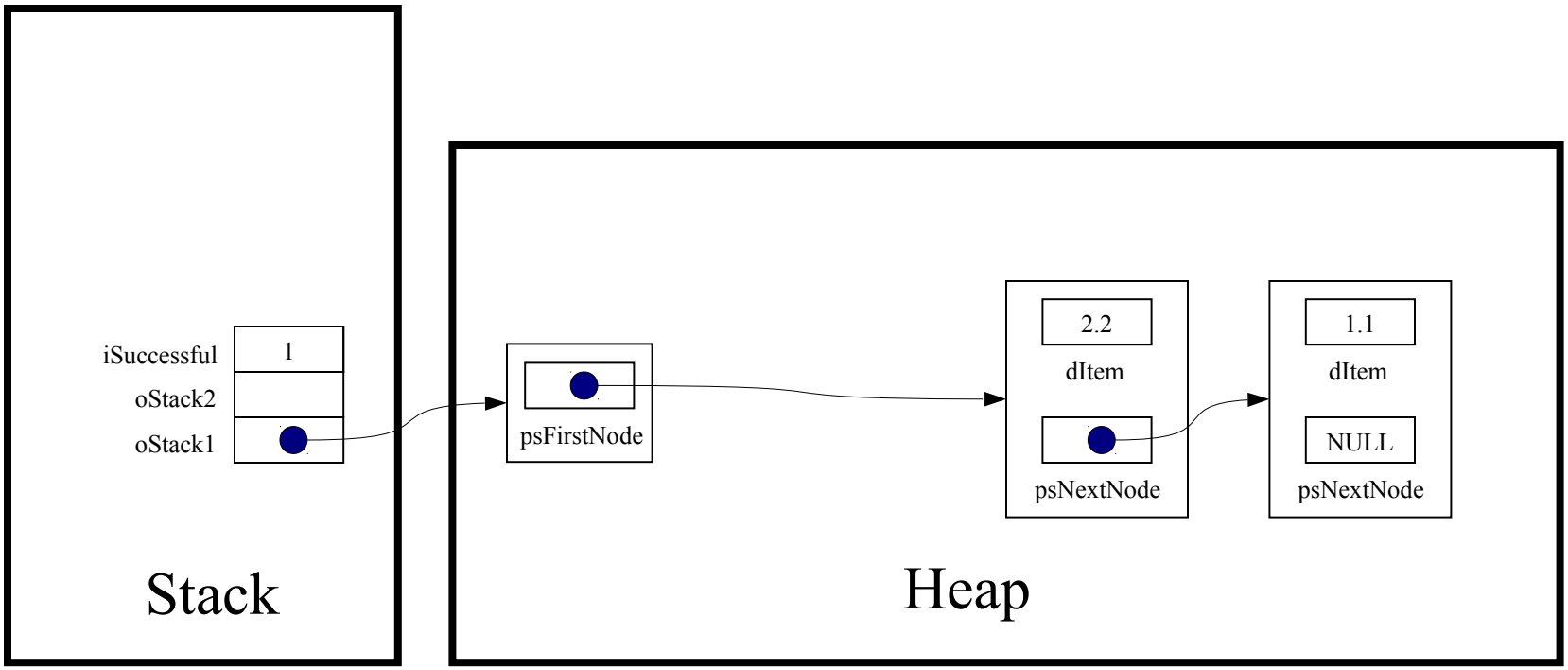
```
return 1;
```



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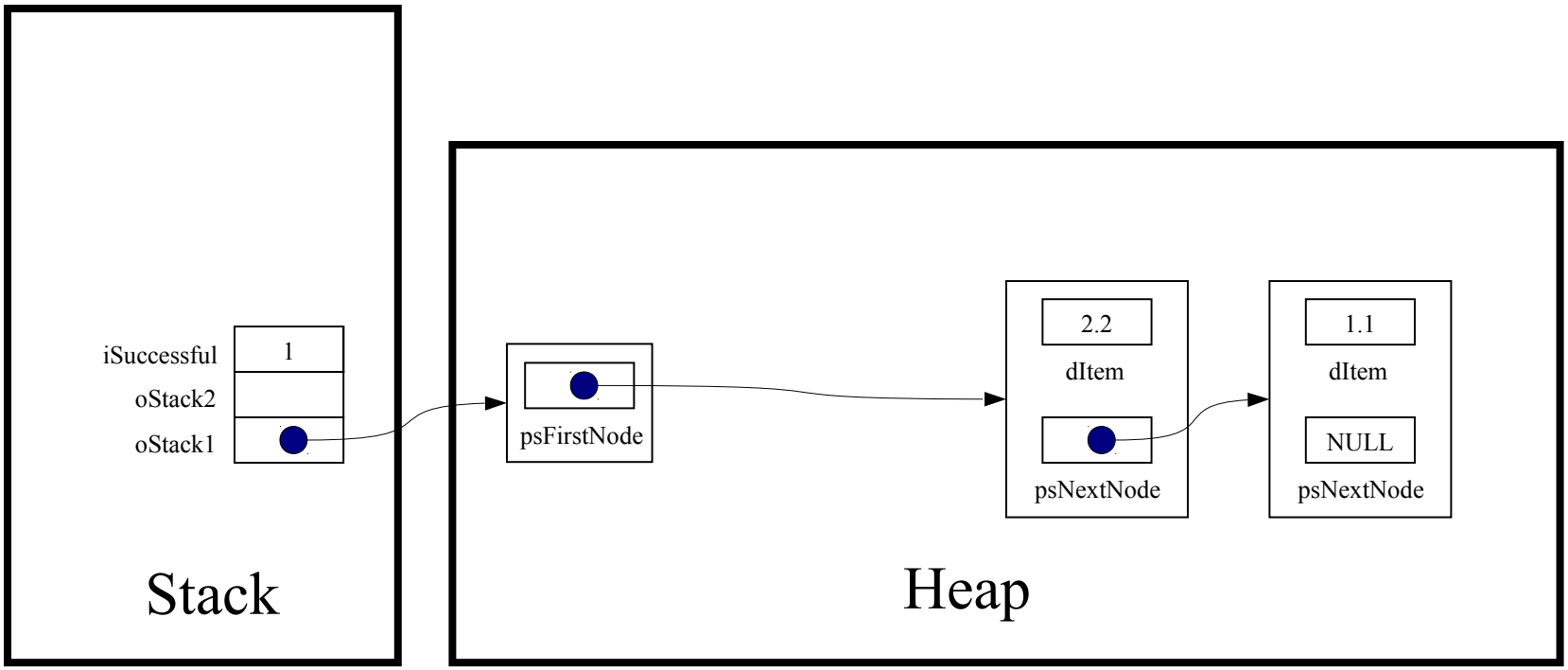
```
iSuccessful = Stack_push(oStack1, 2.2);
```



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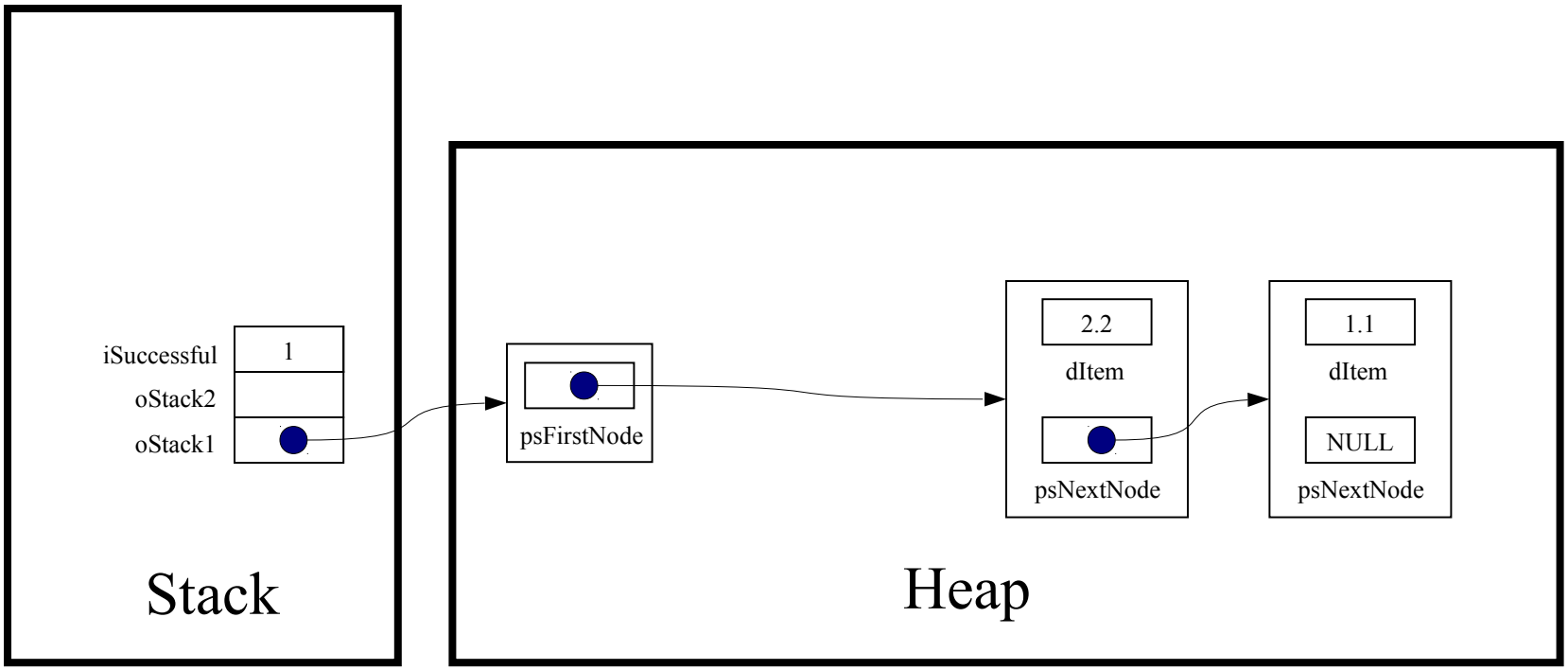
```
if (! iSuccessful) handleMemoryError();
```



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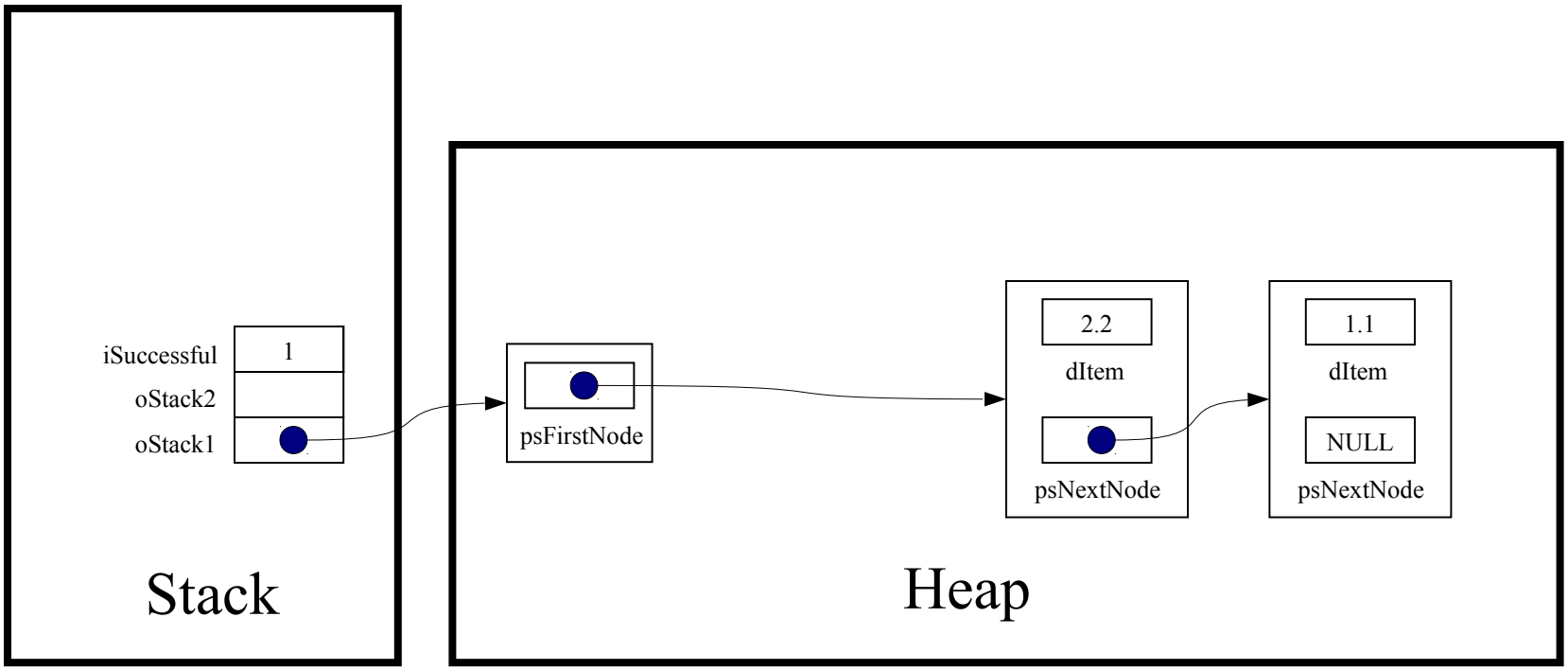
```
iSuccessful = Stack_push(oStack1, 3.3);
```



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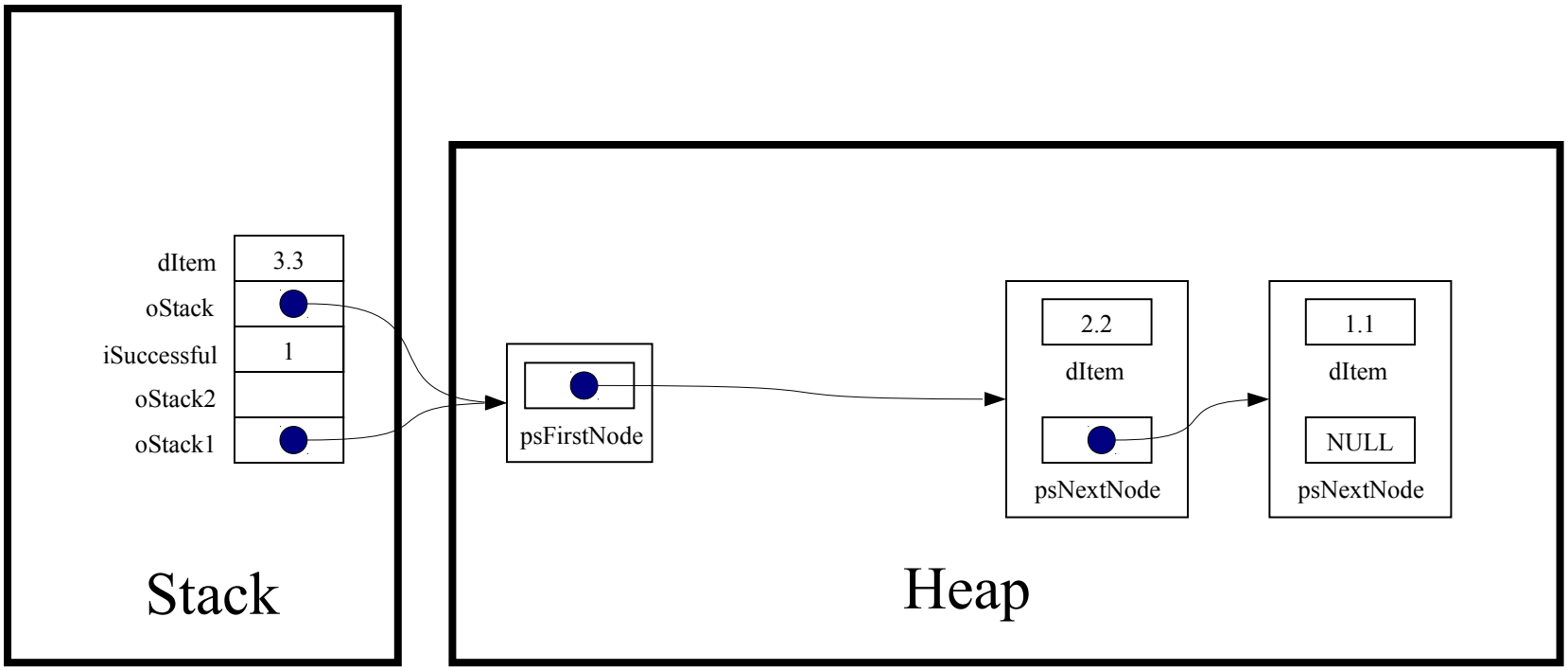
```
int Stack_push(Stack_T oStack, double dItem)
```



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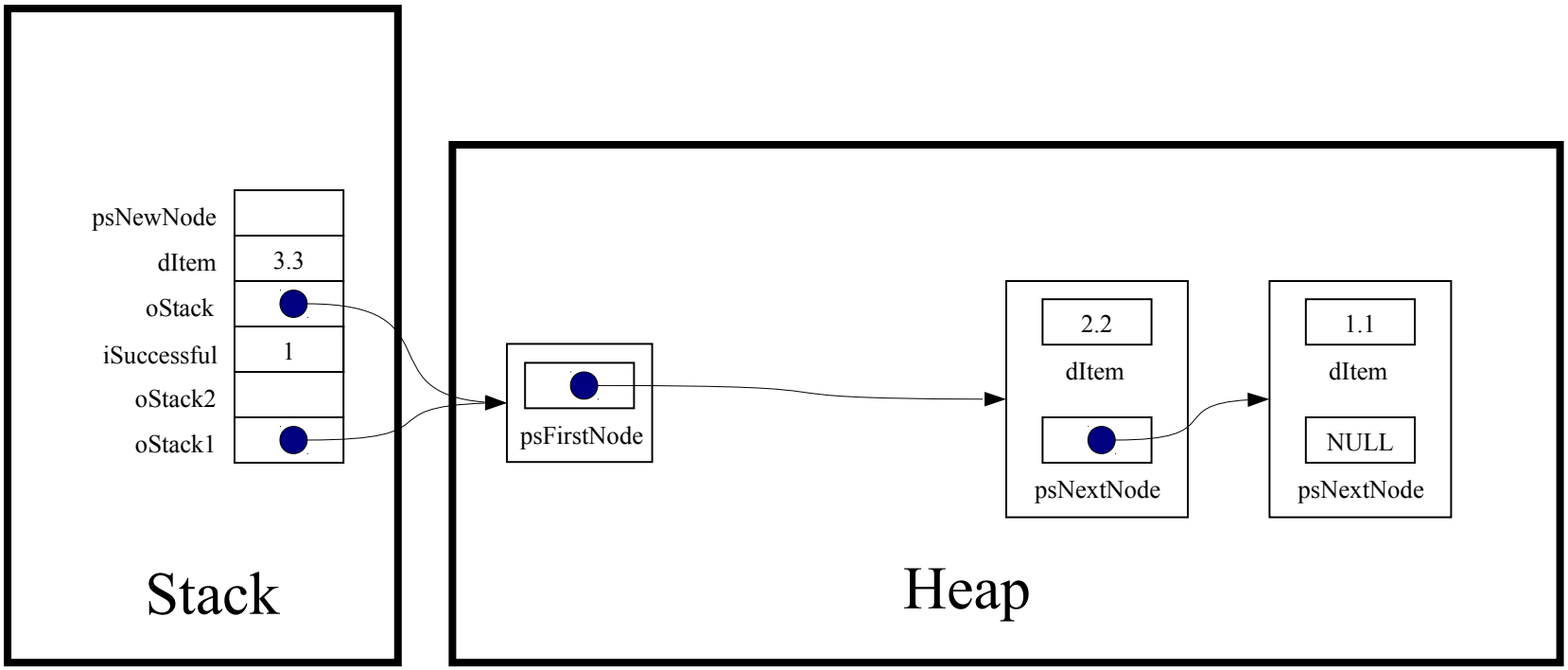
Trace of teststack (Version 4)

```
struct StackNode *psNewNode;
```



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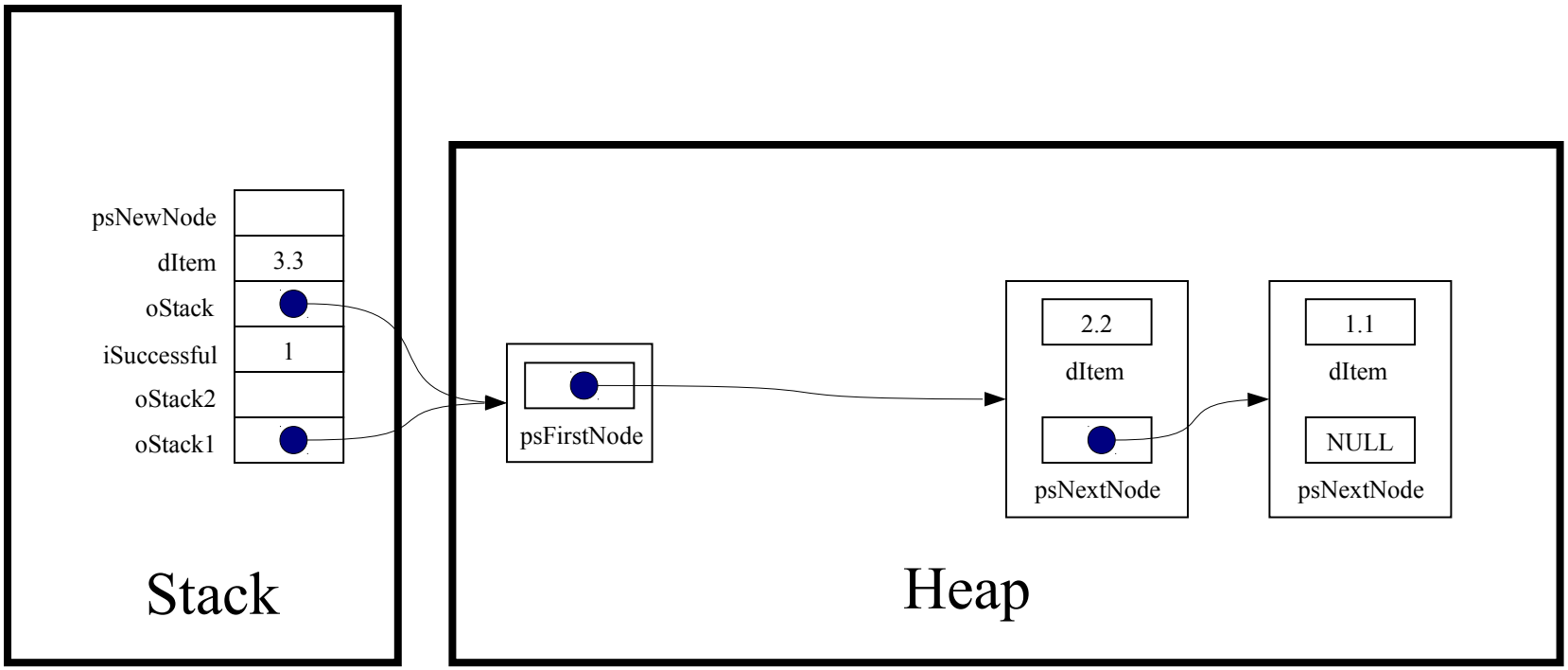
```
assert(oStack != NULL);
```



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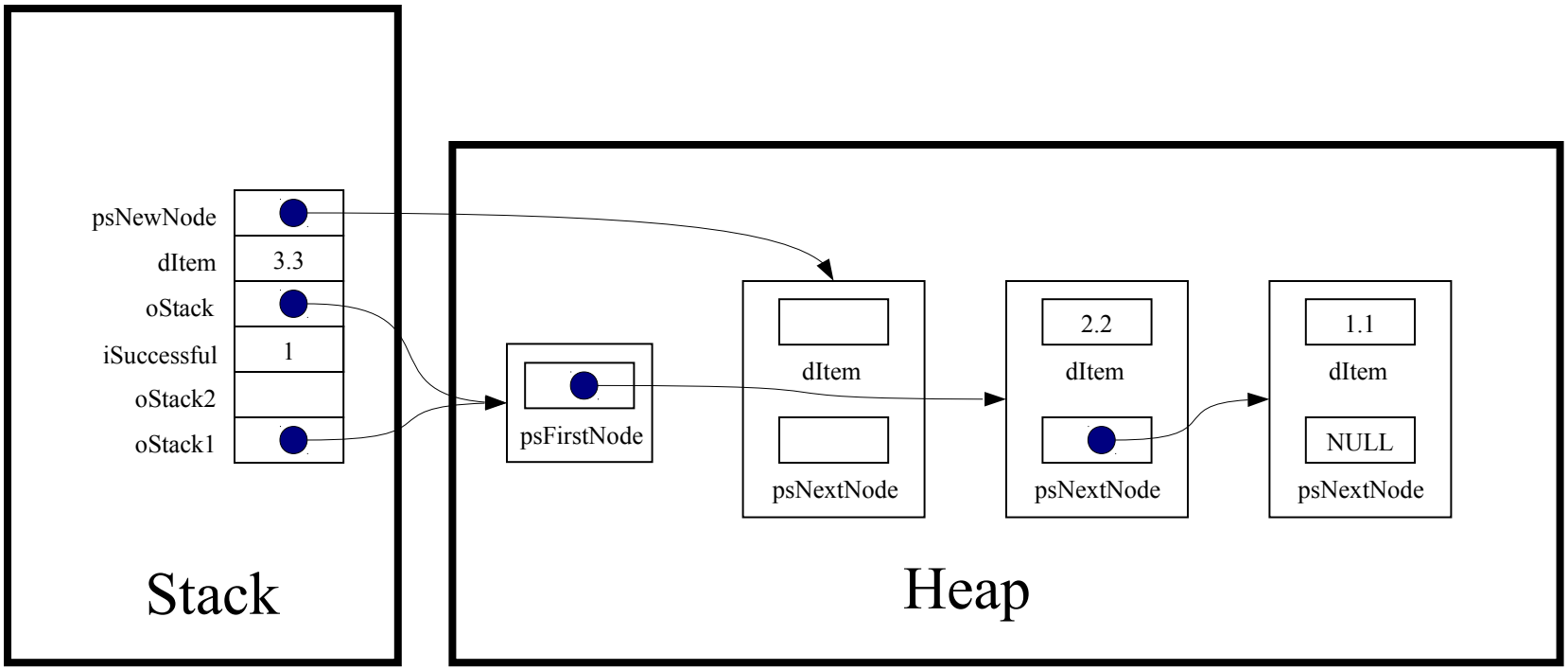
```
psNewNode = (struct StackNode*)malloc(sizeof(struct StackNode));
```



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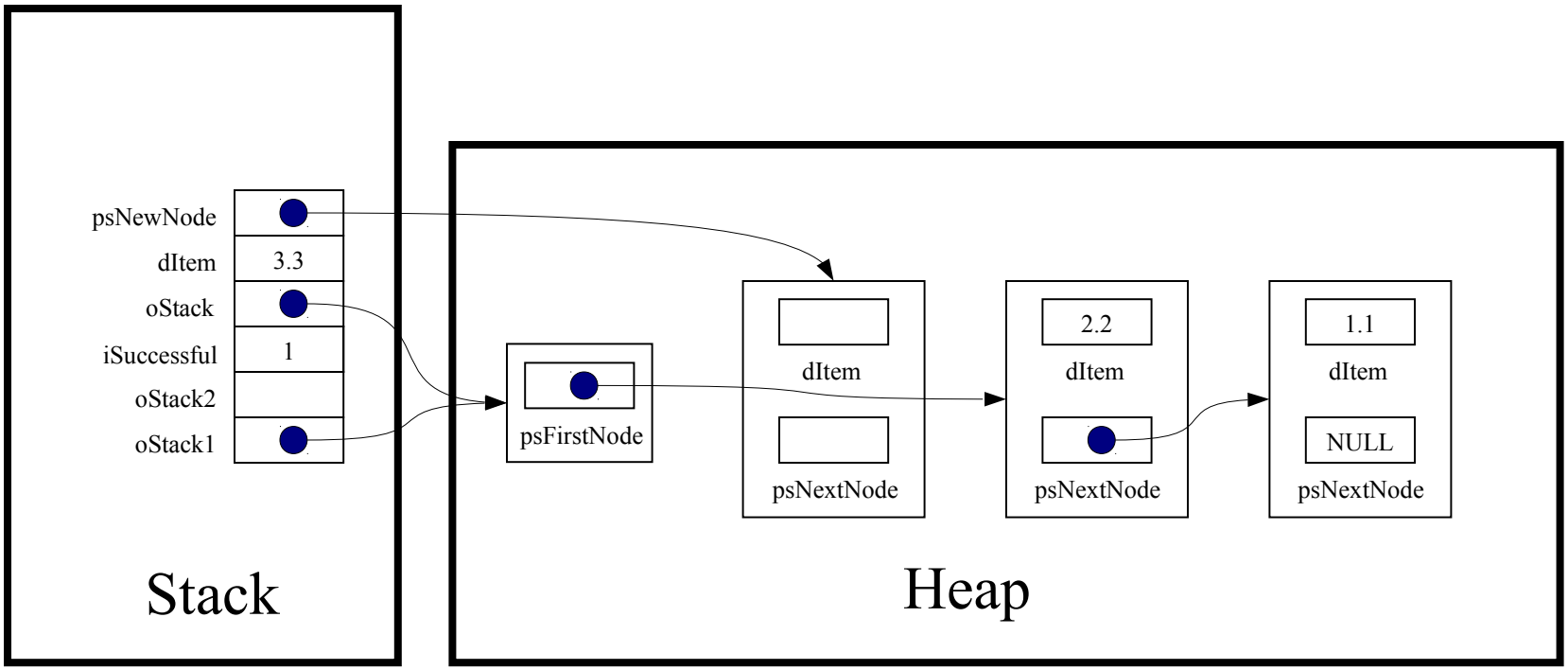
```
if (psNewNode == NULL)
   return 0;
```



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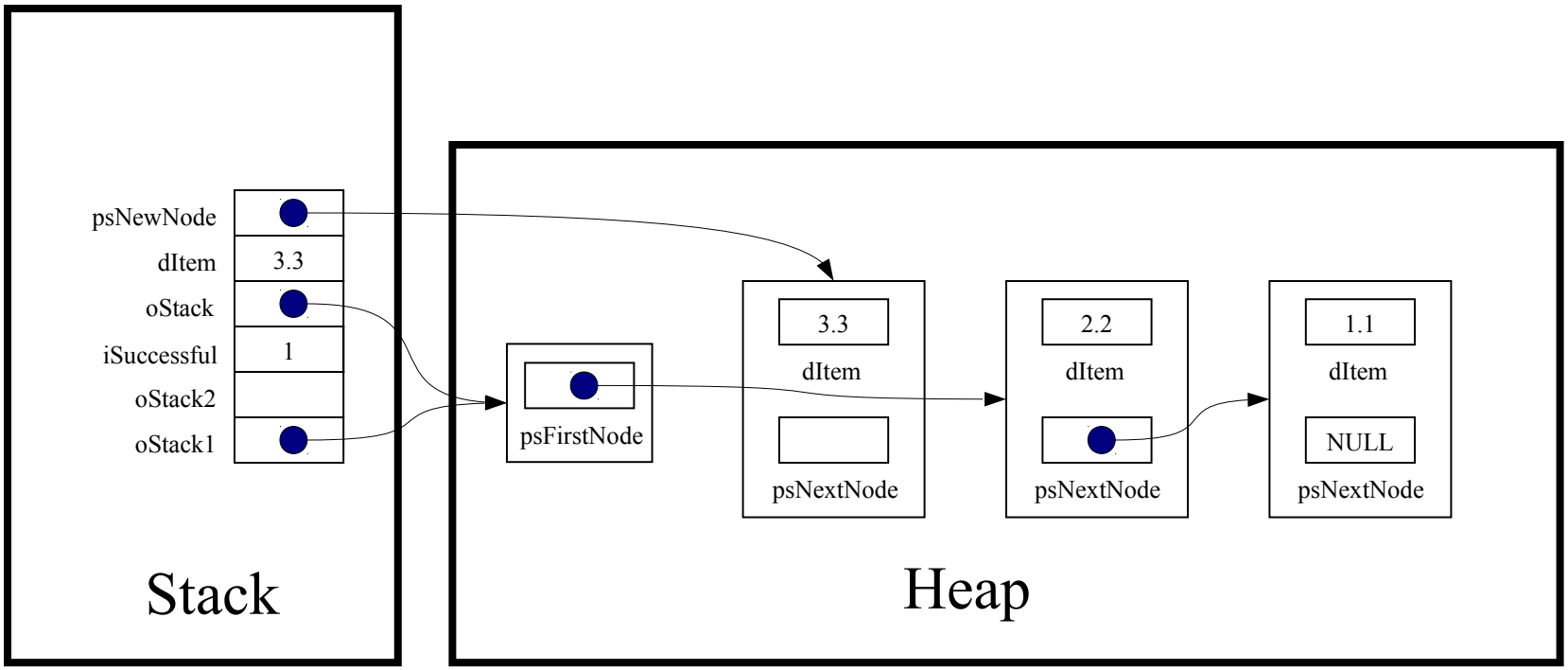
```
psNewNode->dItem = dItem;
```



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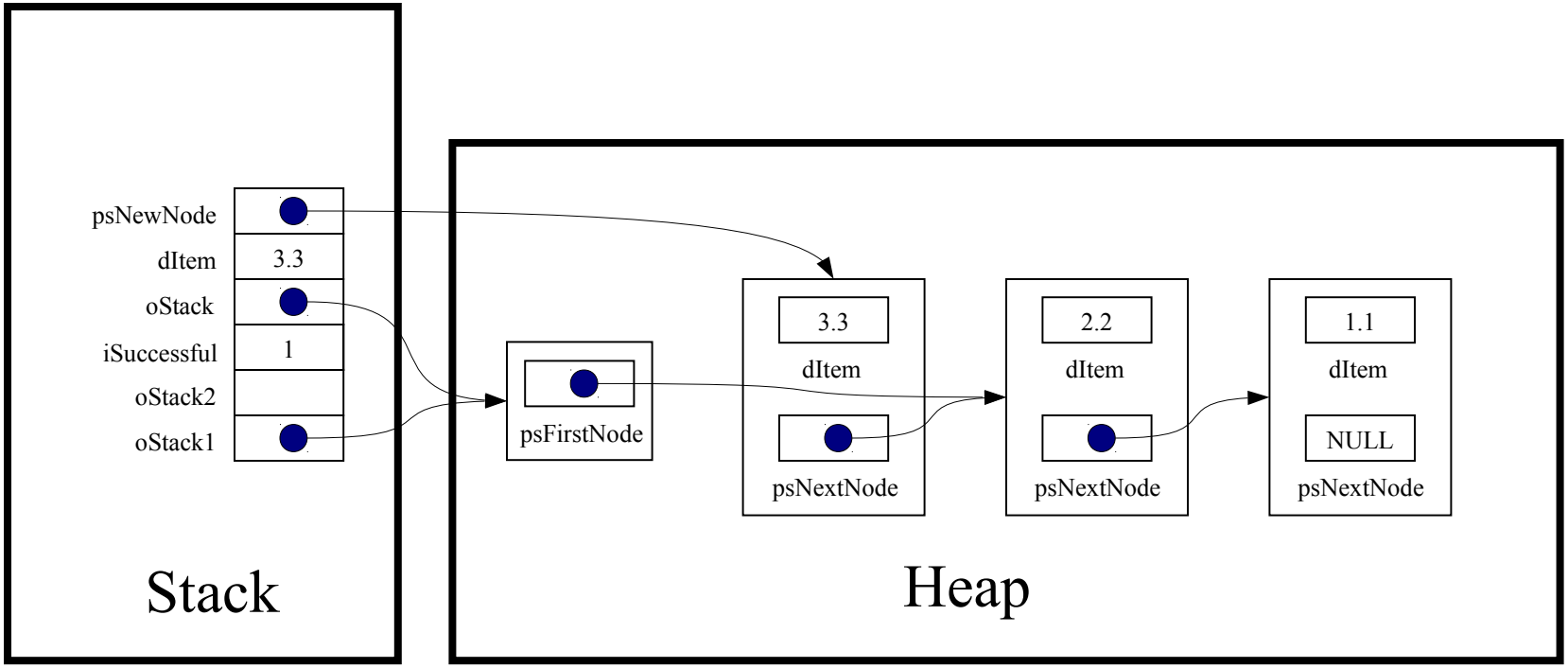
Trace of teststack (Version 4)

```
psNewNode->psNextNode = oStack->psFirstNode;
```



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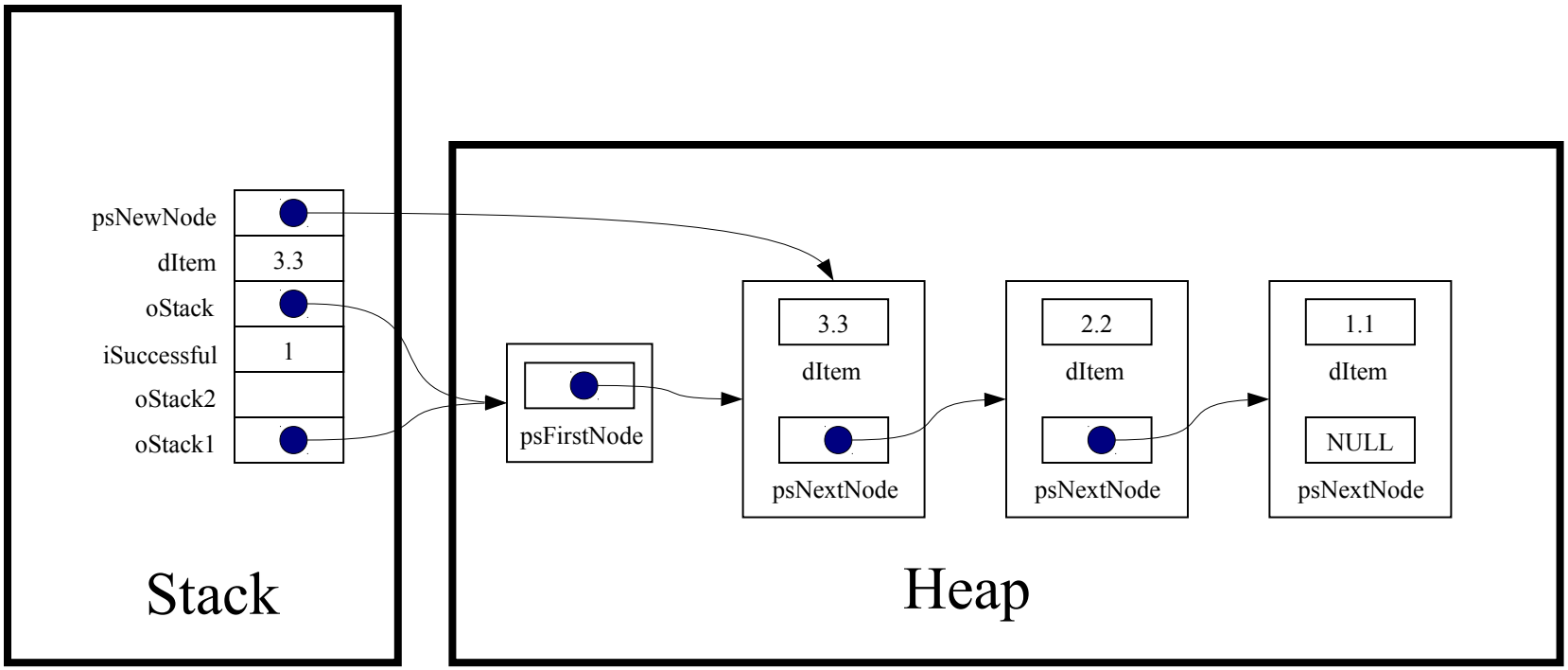
Trace of teststack (Version 4)

```
oStack->psFirstNode = psNewNode;
```



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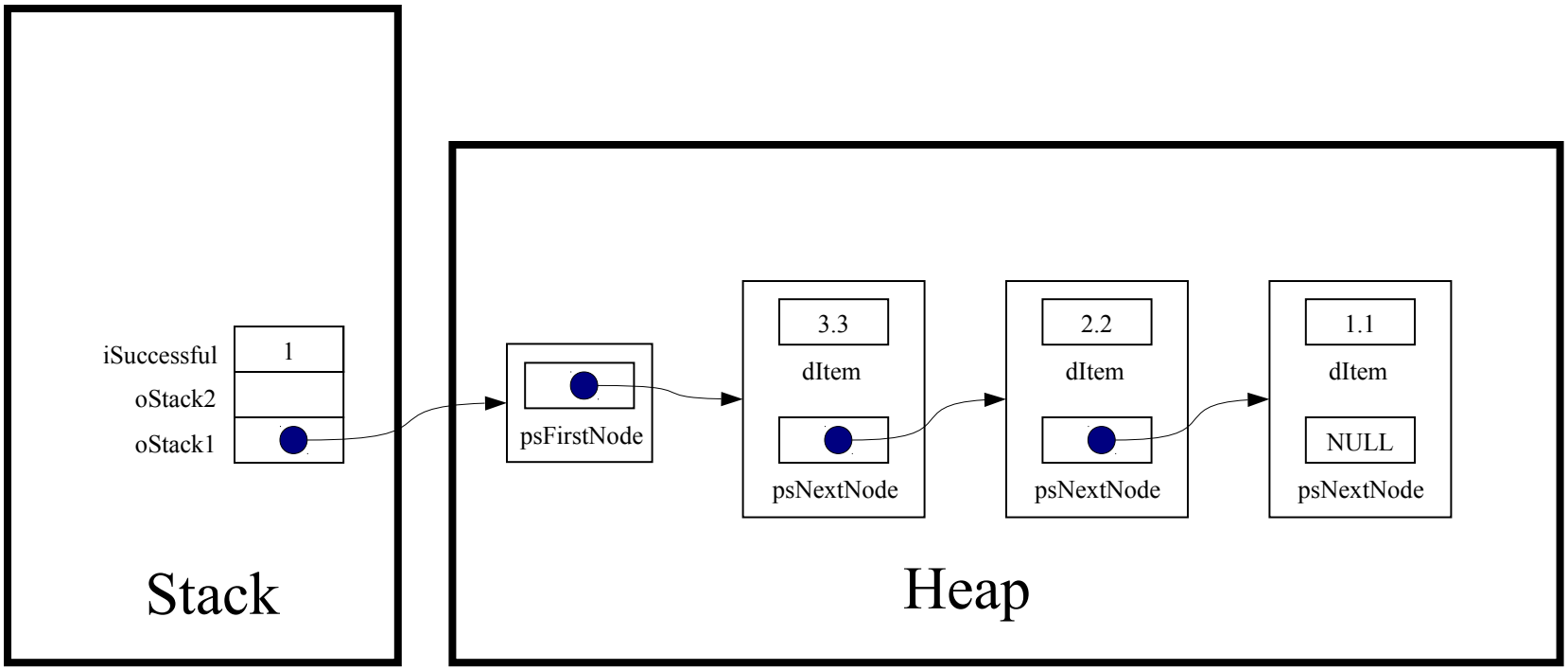
Trace of teststack (Version 4)

```
return 1;
```



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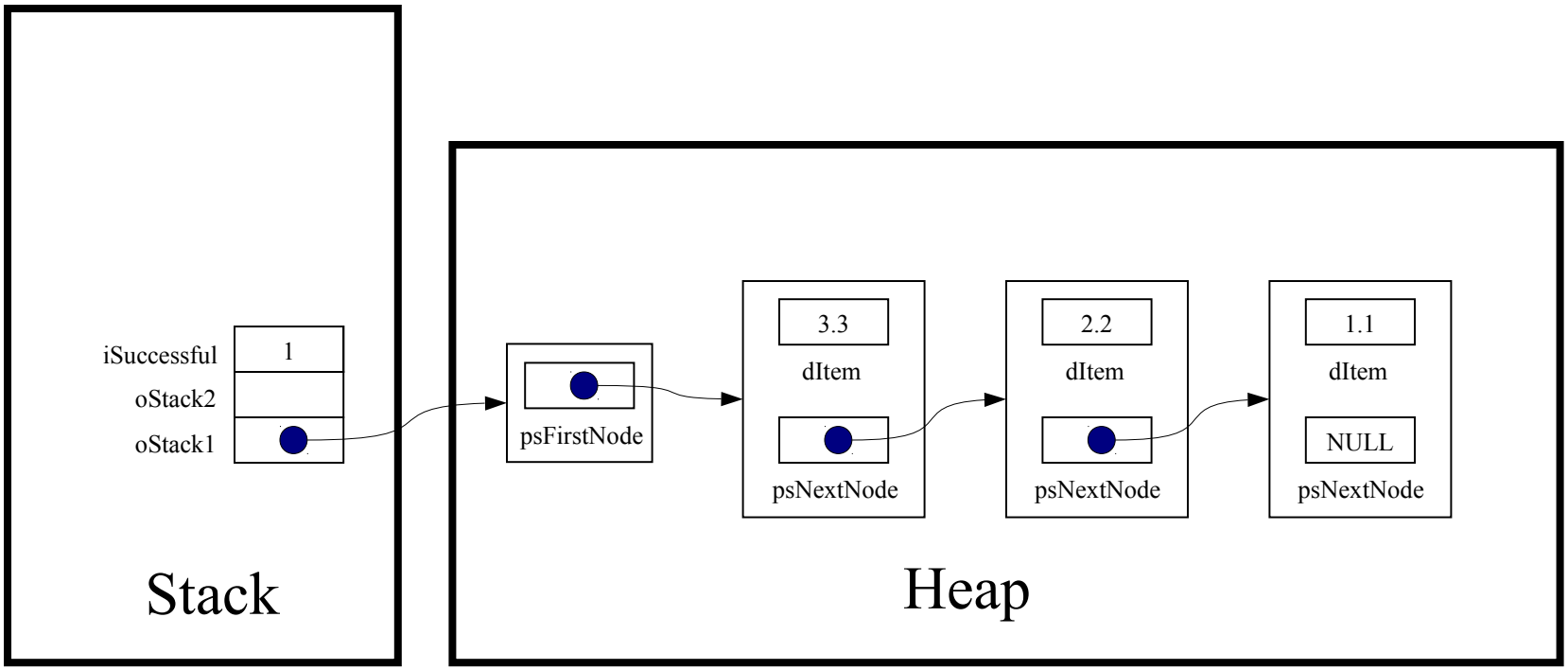
Trace of teststack (Version 4)

```
iSuccessful = Stack_push(oStack1, 3.3);
```



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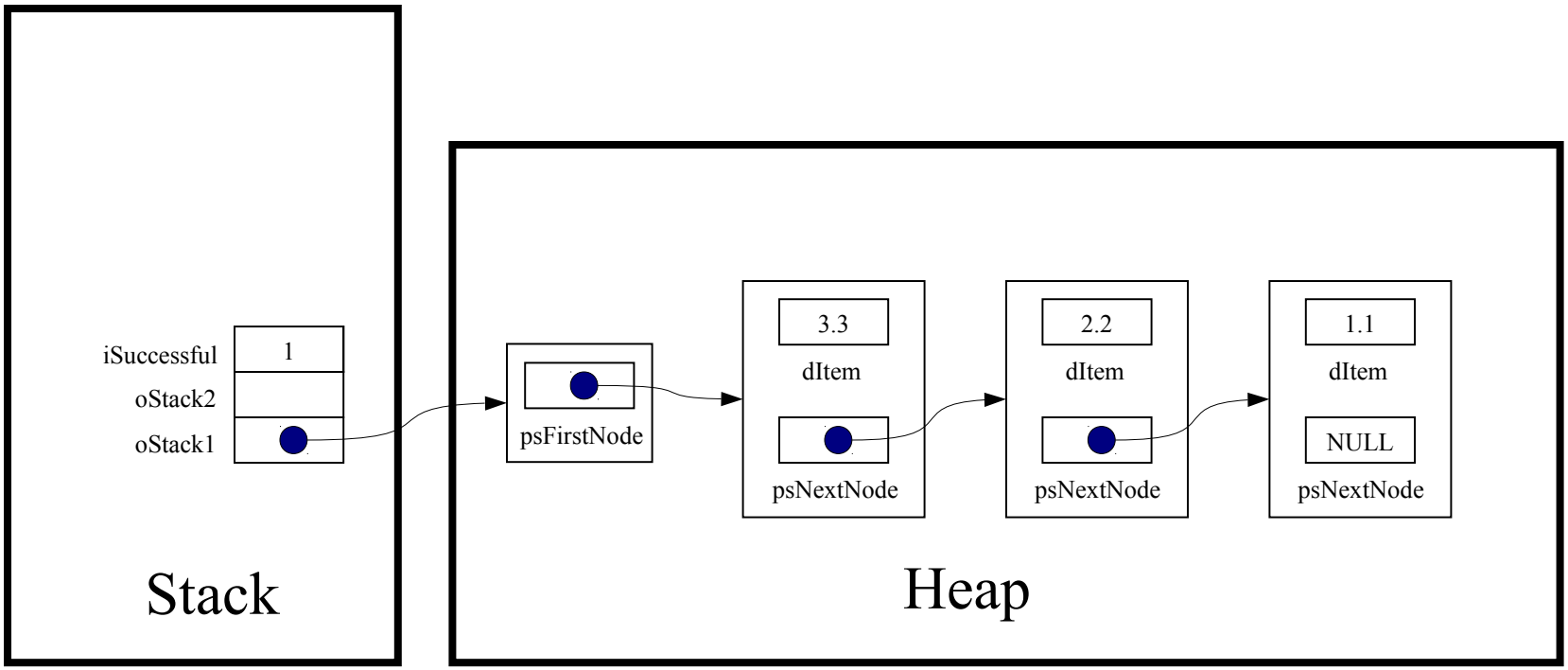
Trace of teststack (Version 4)

```
if (! iSuccessful) handleMemoryError();
```



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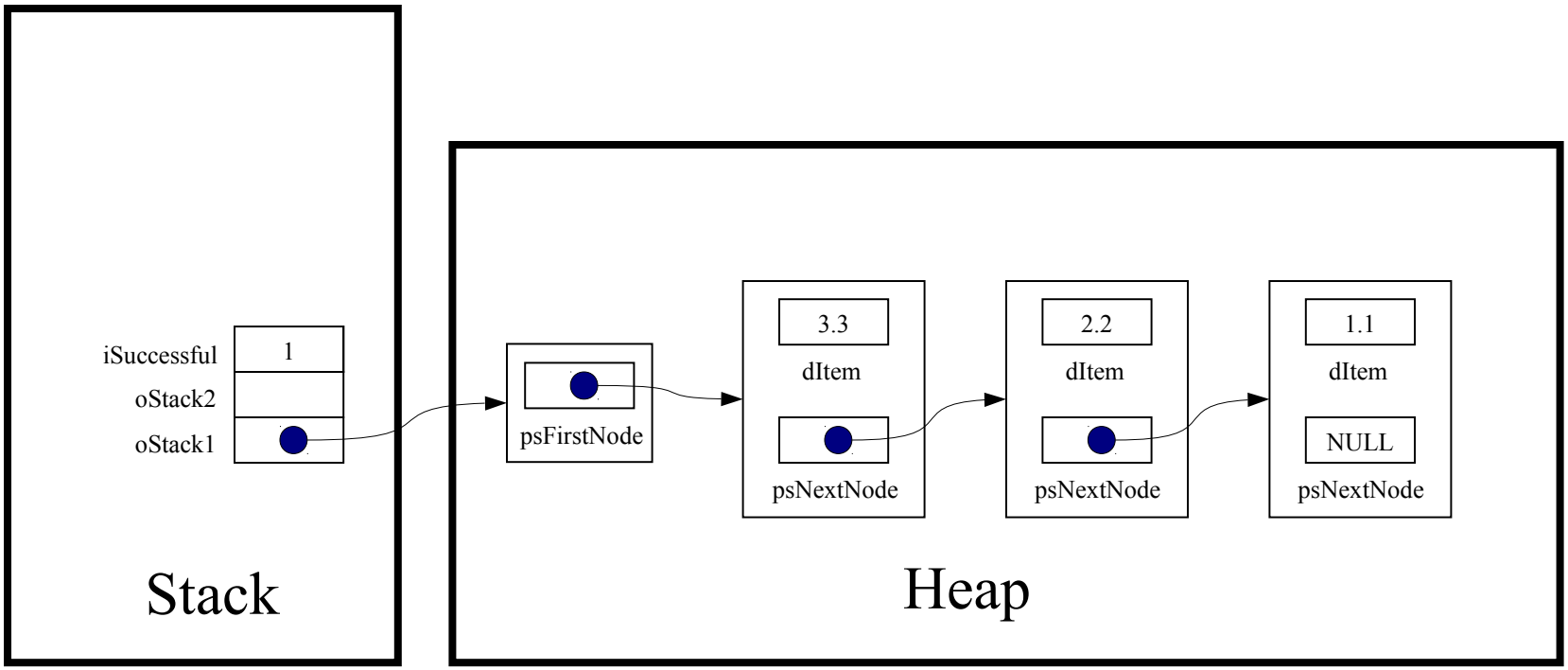
Trace of teststack (Version 4)

```
while (! Stack_isEmpty(oStack1))
   ...
```



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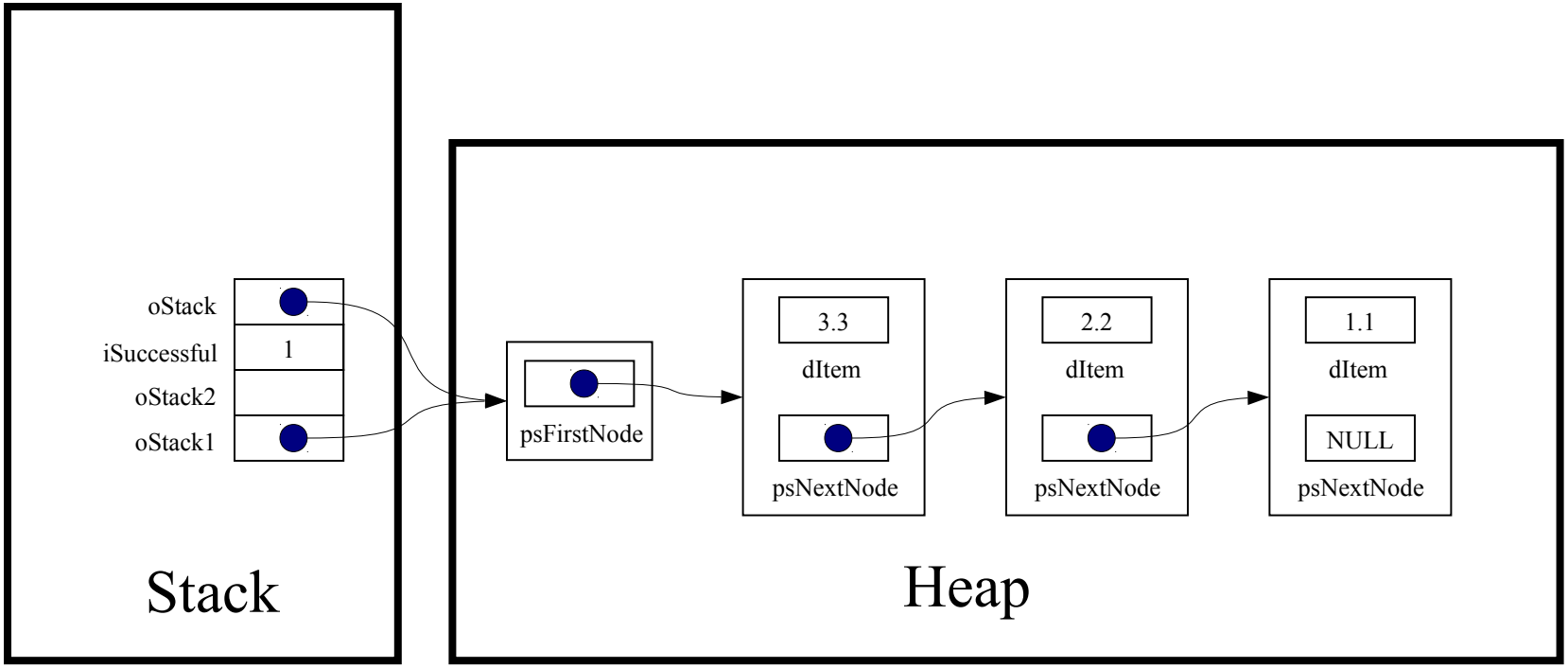
```
int Stack_isEmpty(Stack_T oStack)
```



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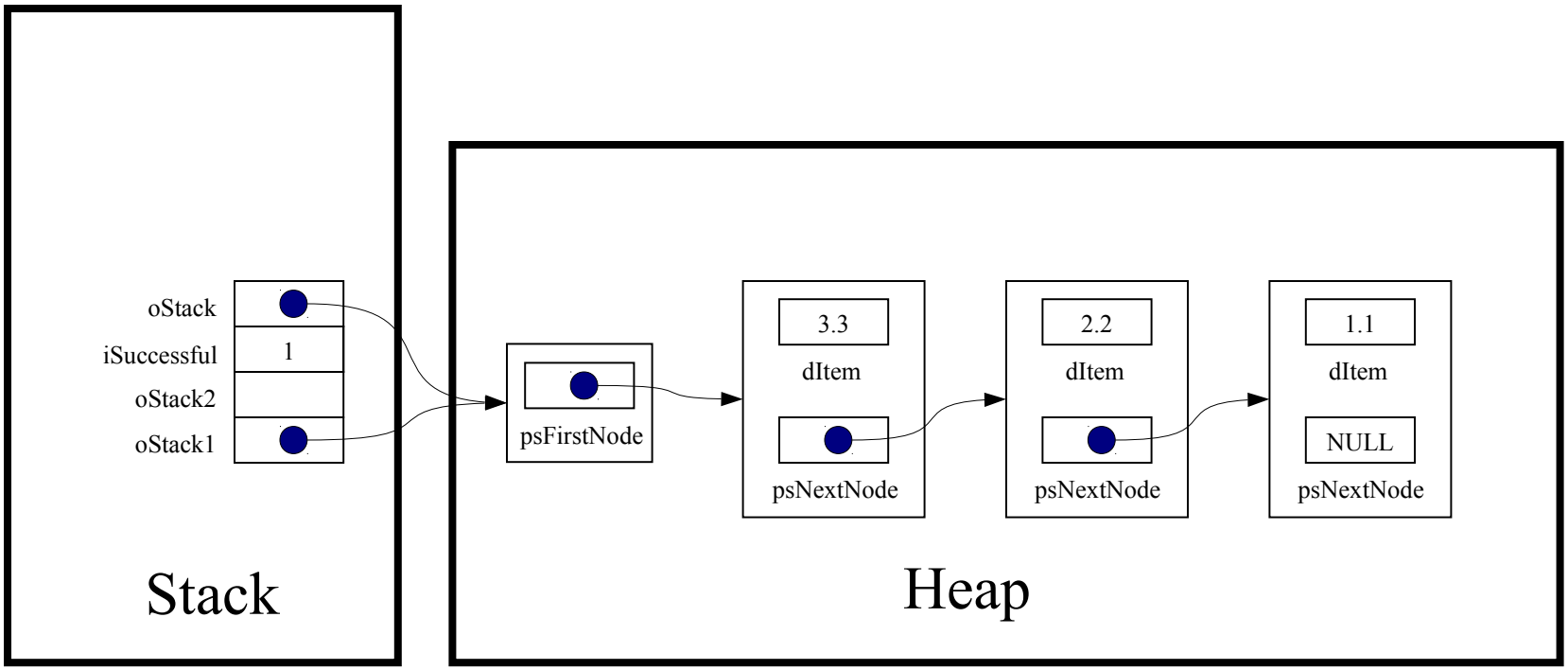
```
assert(oStack != NULL);
```



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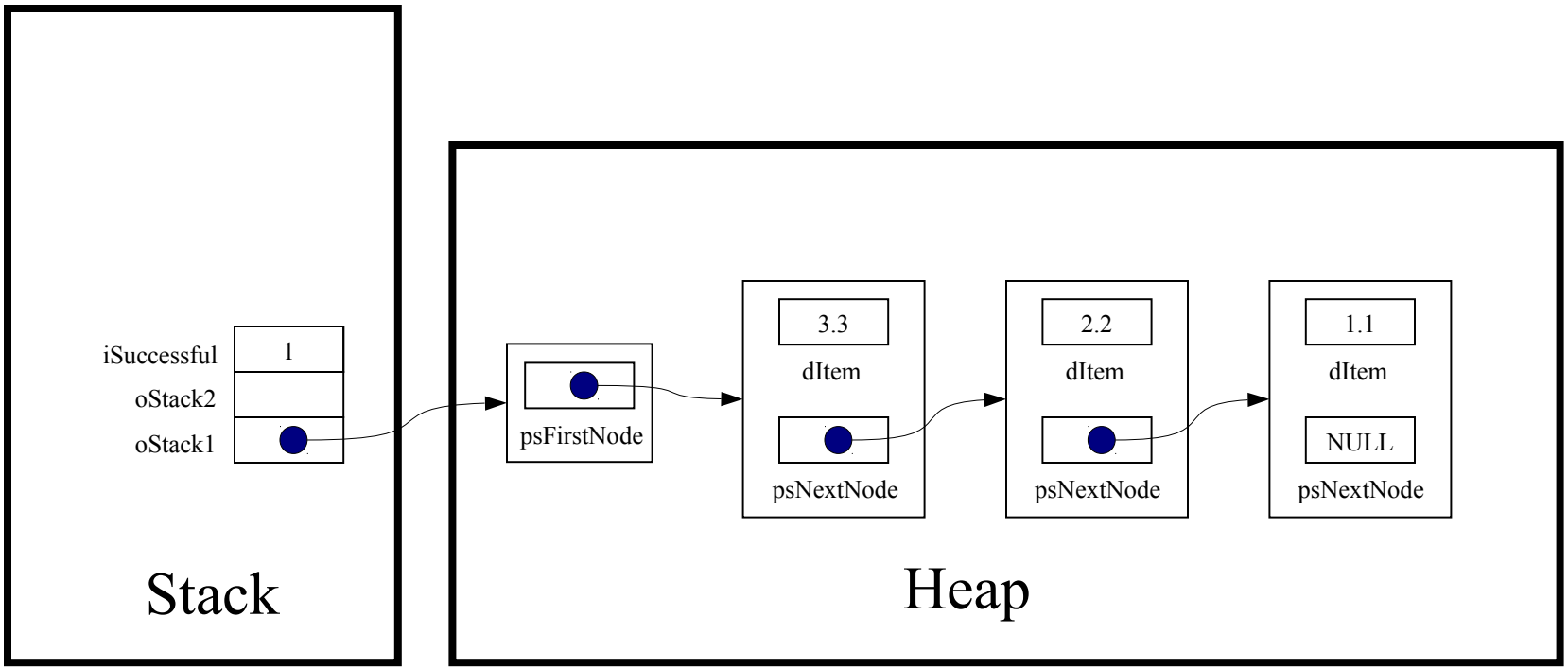
```
return oStack->psFirstNode == NULL;
```



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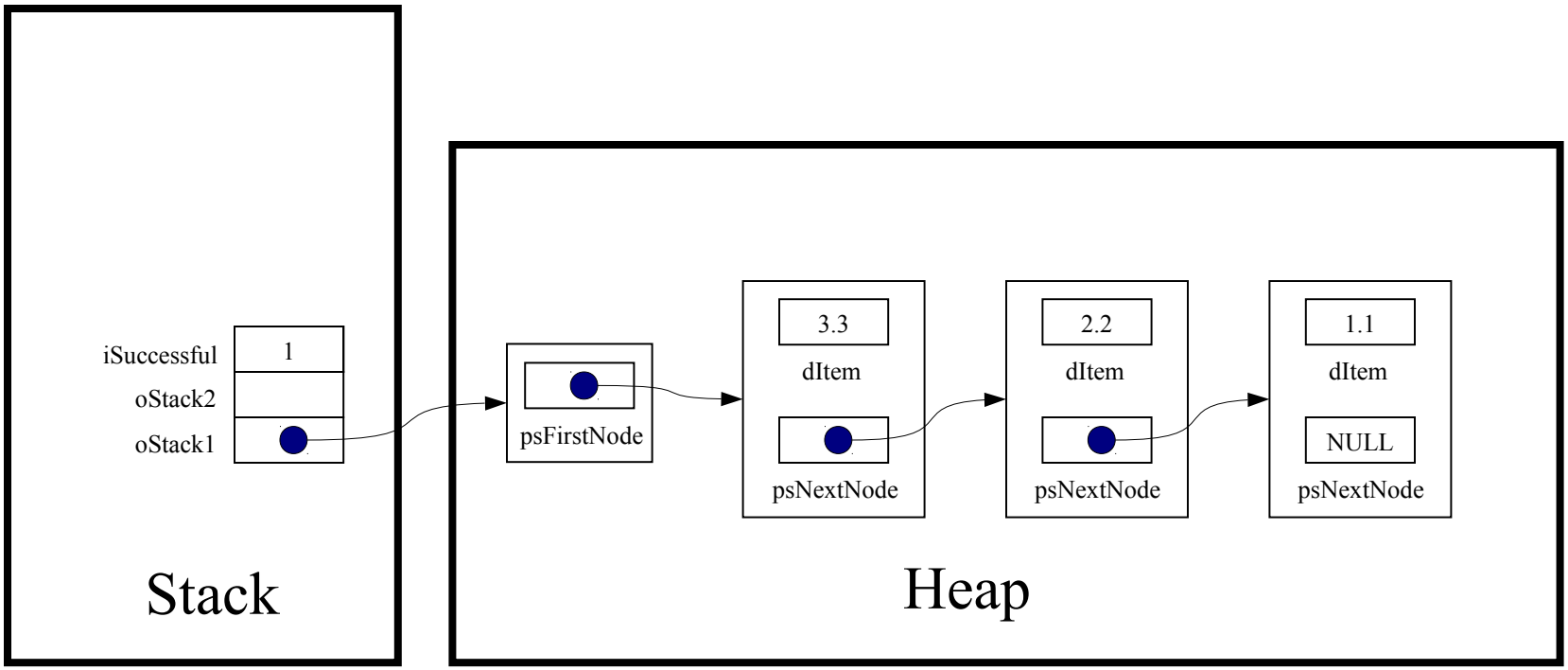
Trace of teststack (Version 4)

```
while (! Stack_isEmpty(oStack1))
   ...
```



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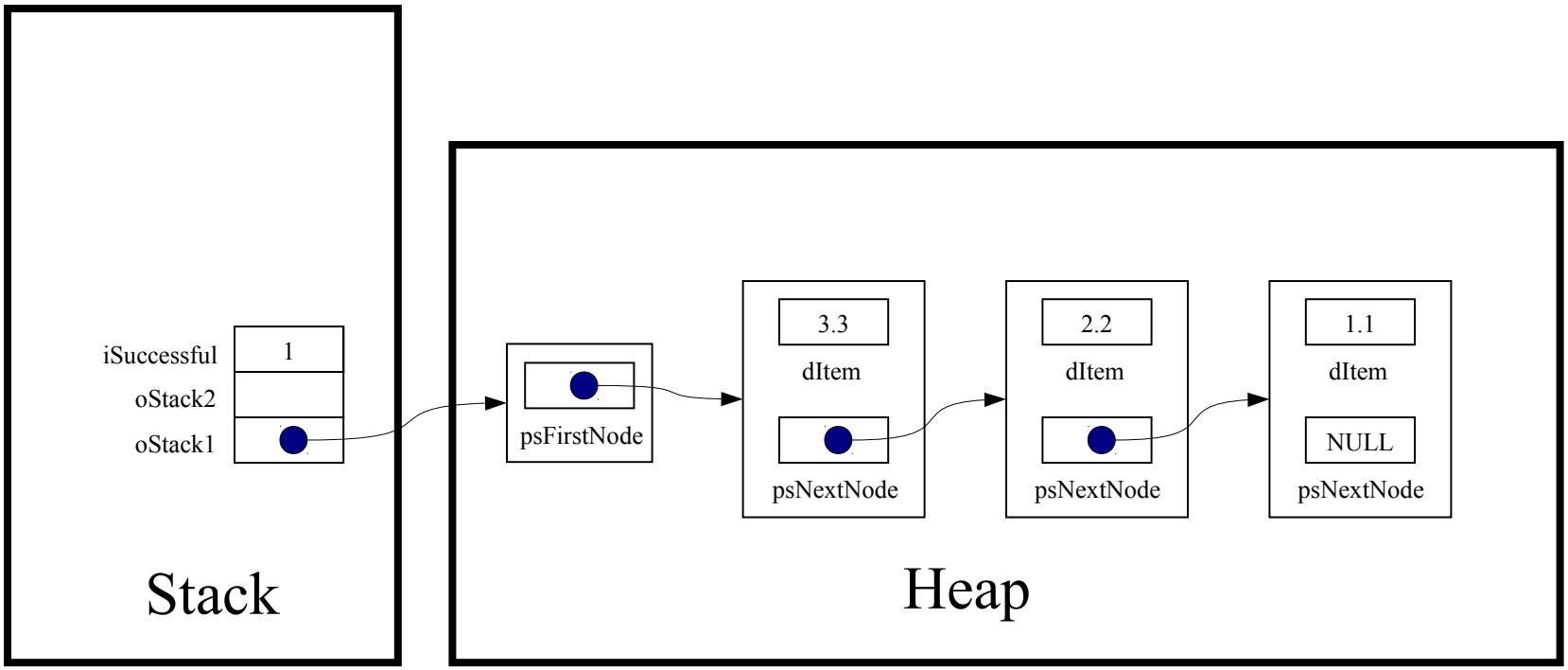
Trace of teststack (Version 4)

```
printf("%g\n", Stack_pop(oStack1));
```



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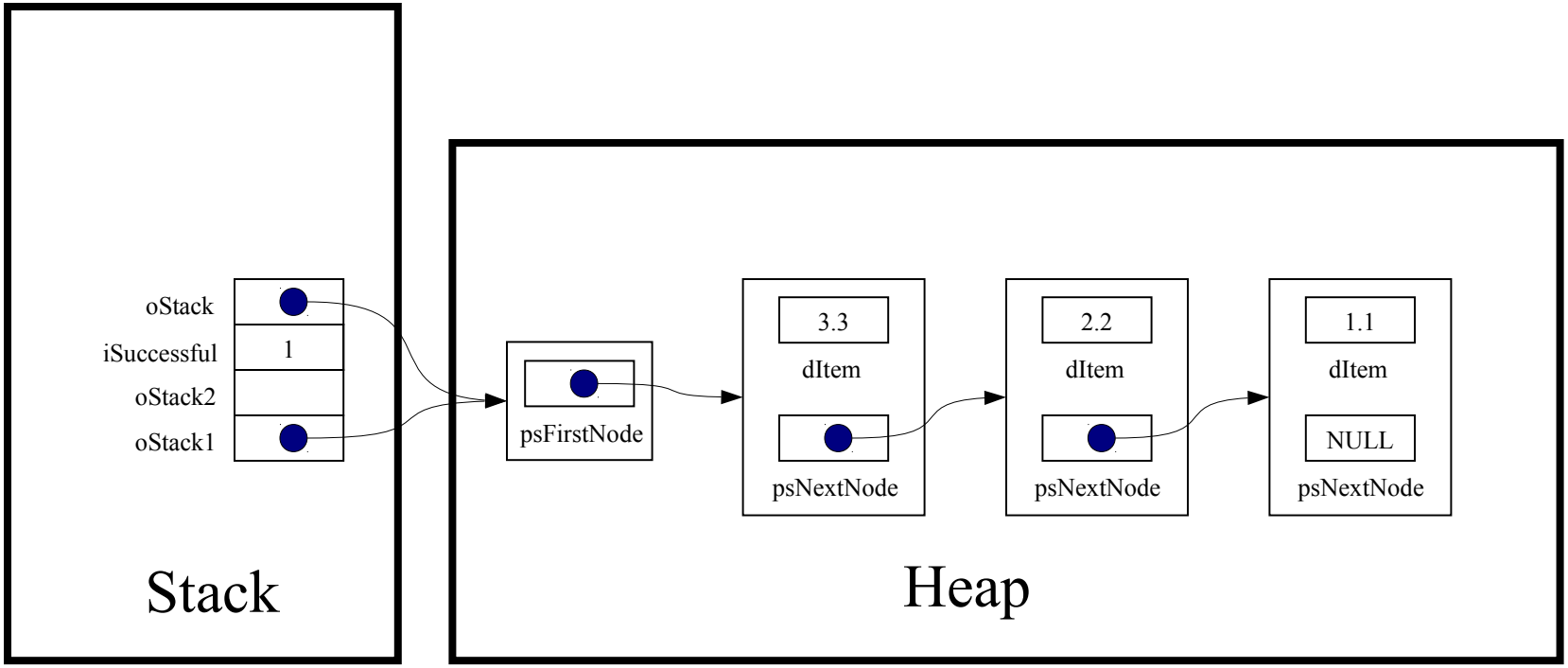
Trace of teststack (Version 4)

```
double Stack_pop(Stack_T oStack)
```



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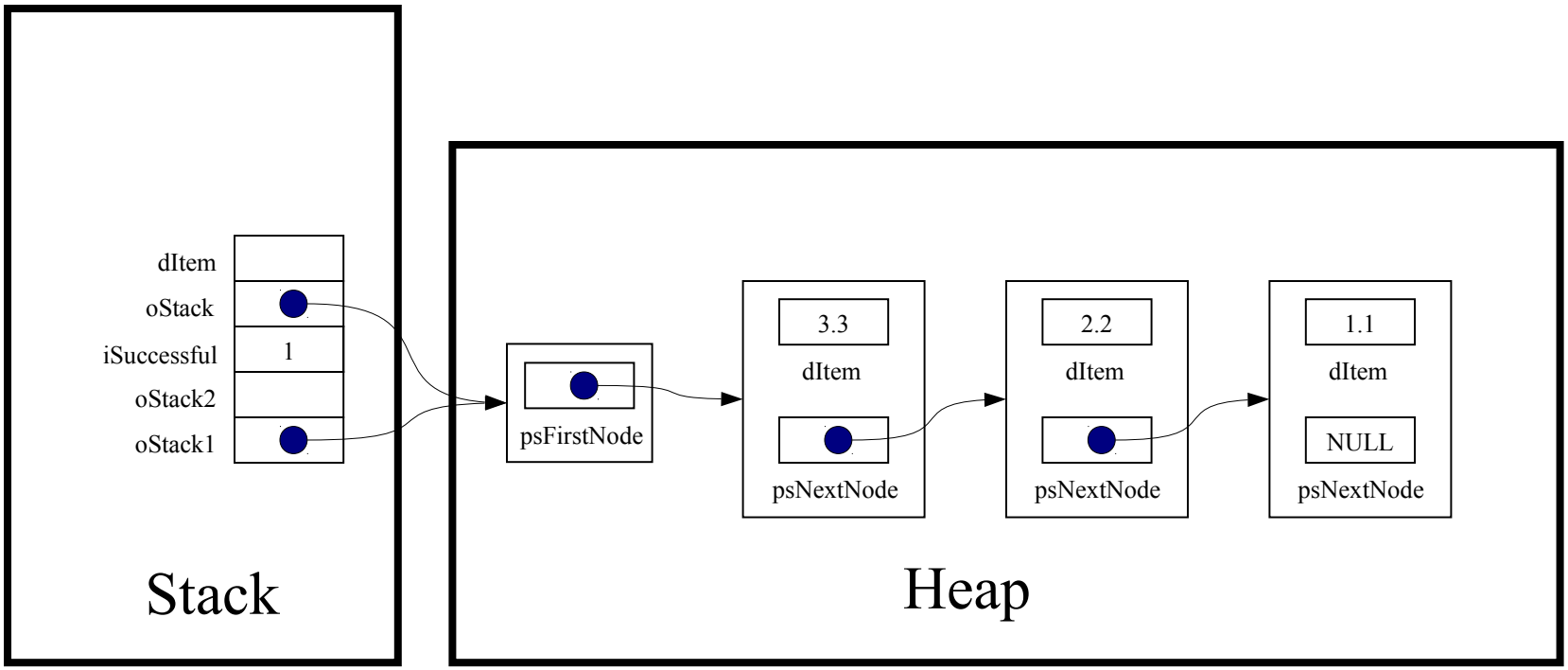
```
double dItem;
```



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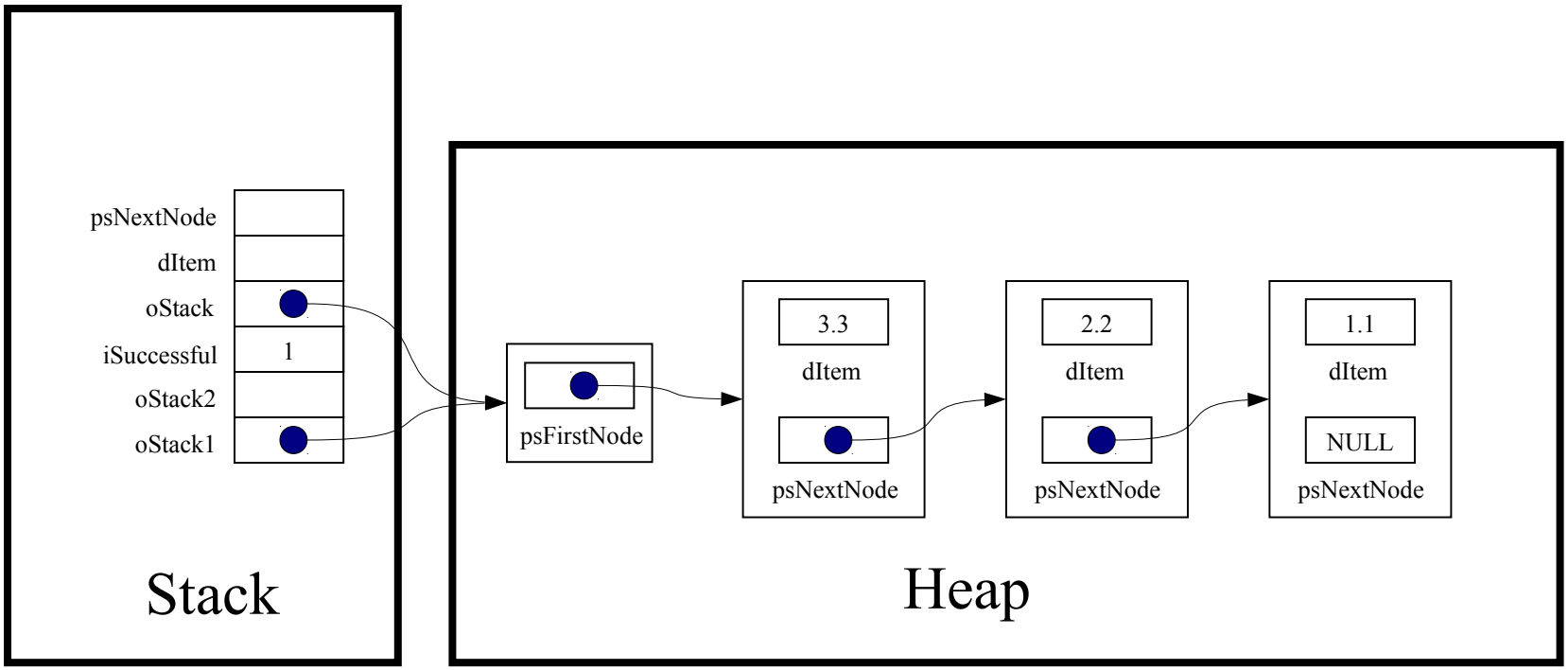
Trace of teststack (Version 4)

```
struct StackNode *psNextNode;
```



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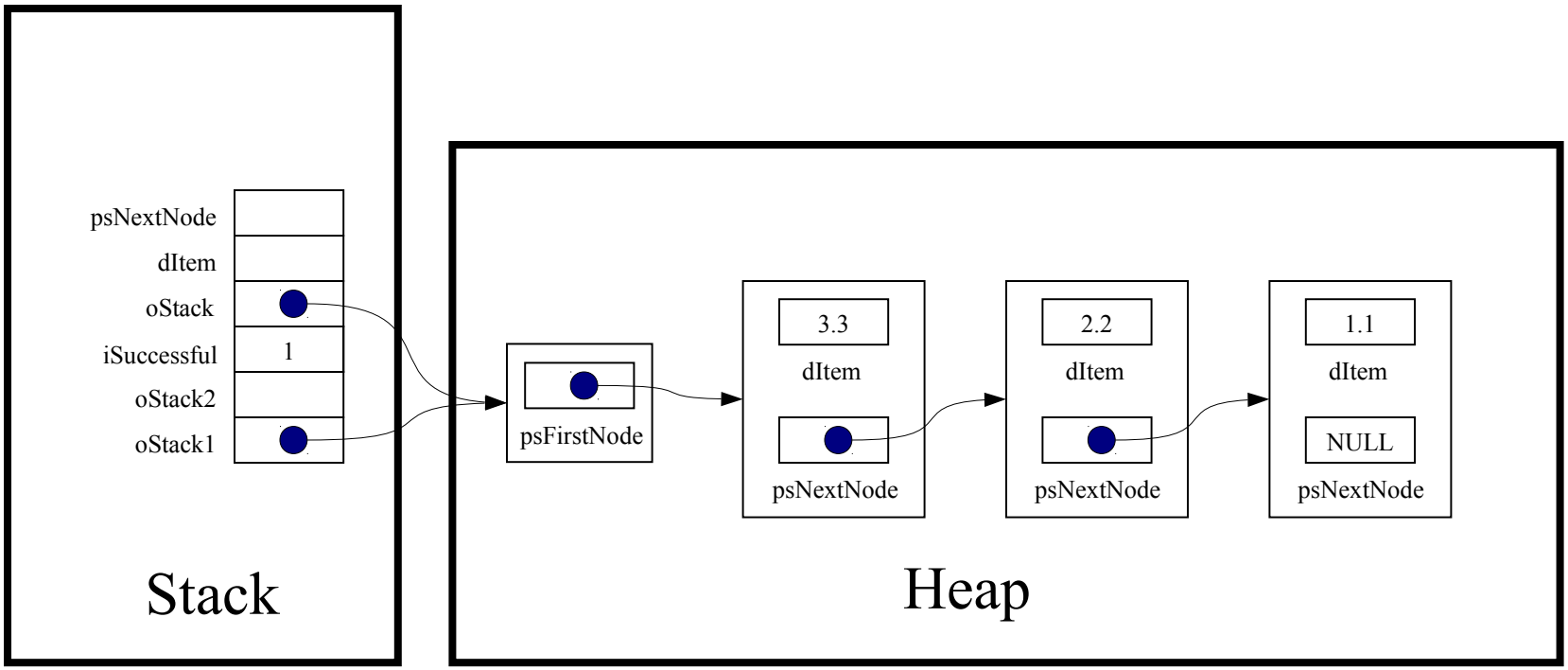
Trace of teststack (Version 4)

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



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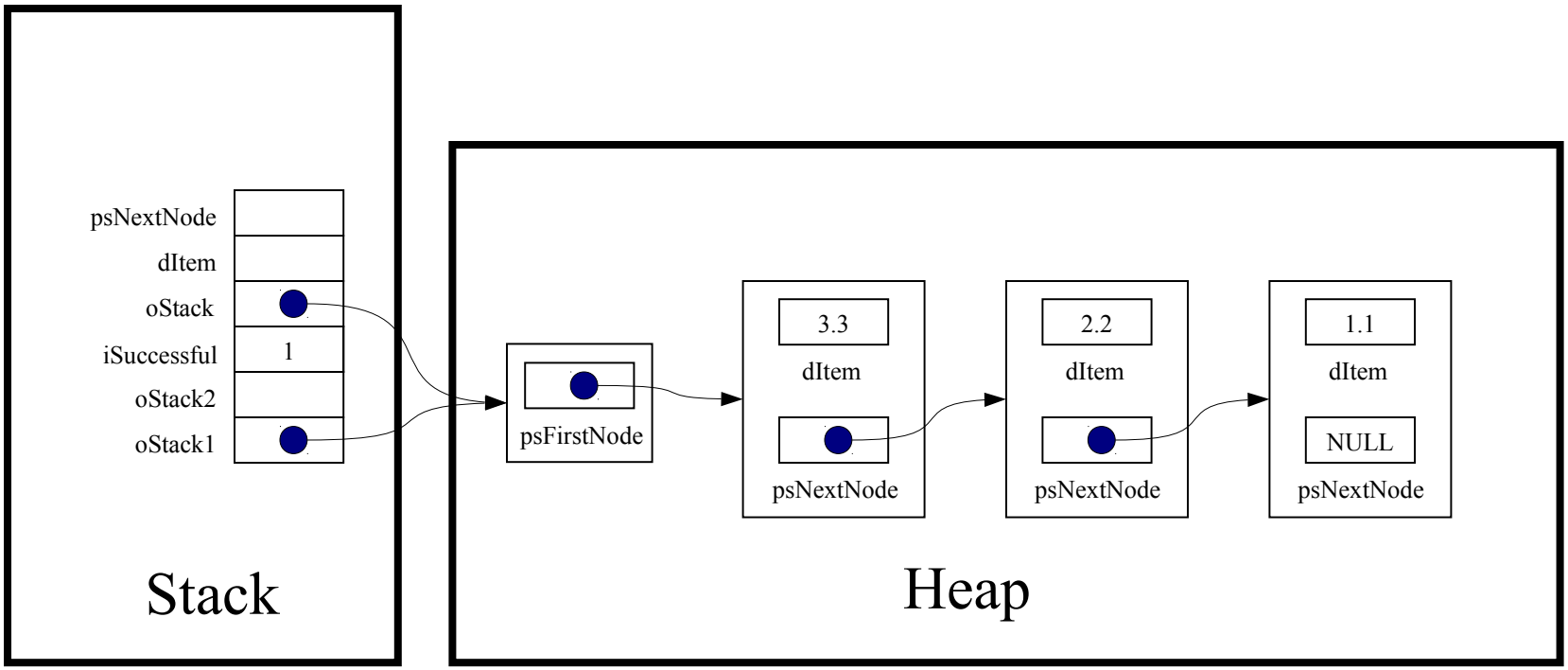
Trace of teststack (Version 4)

```
assert(oStack->psFirstNode != NULL);
```



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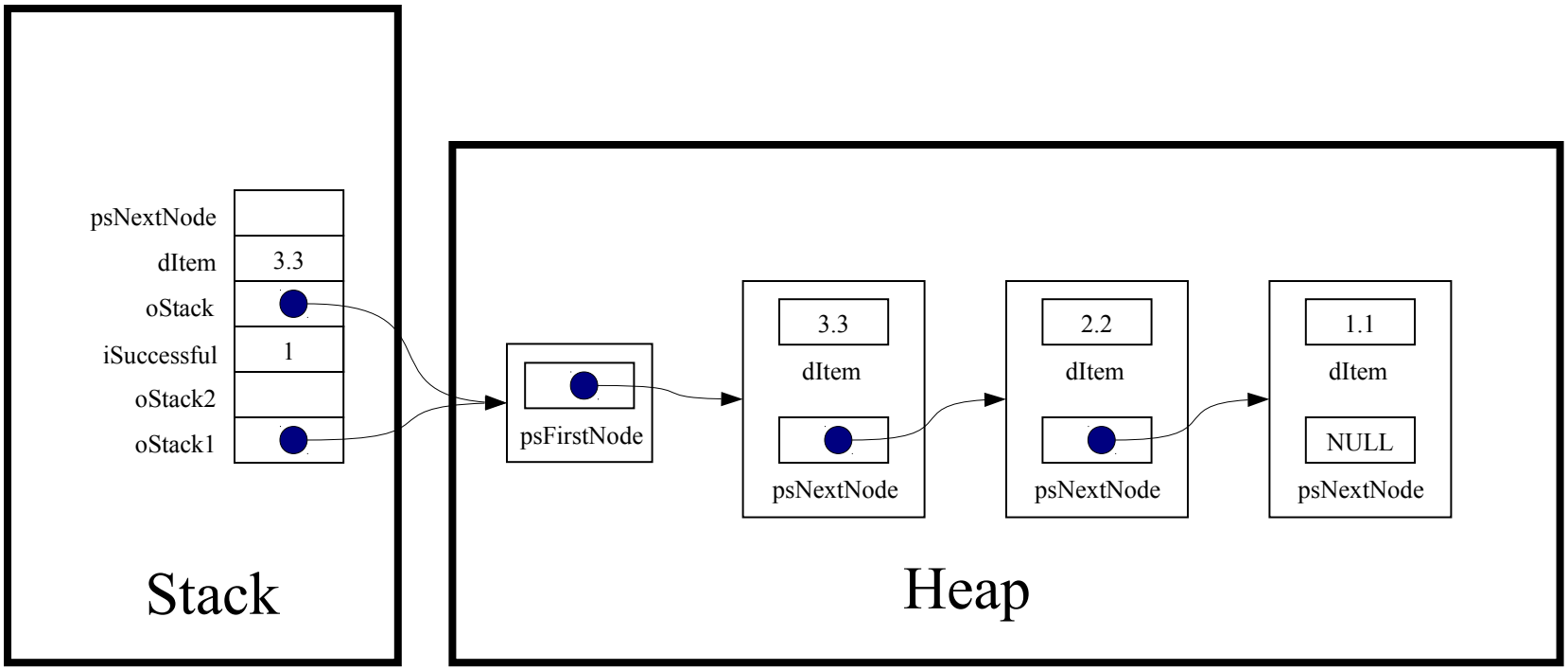
```
dItem = oStack->psFirstNode->dItem;
```



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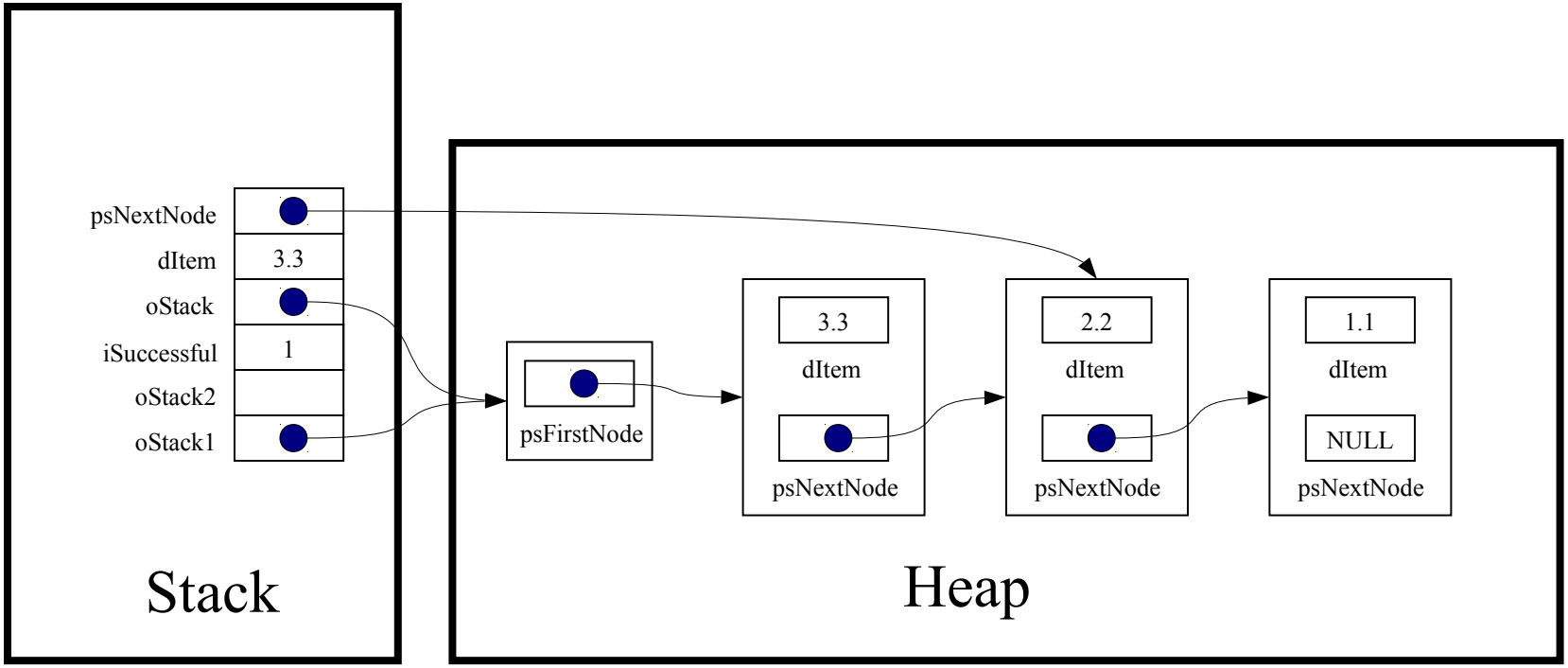
```
psNextNode = oStack→psFirstNode->psNextNode
```



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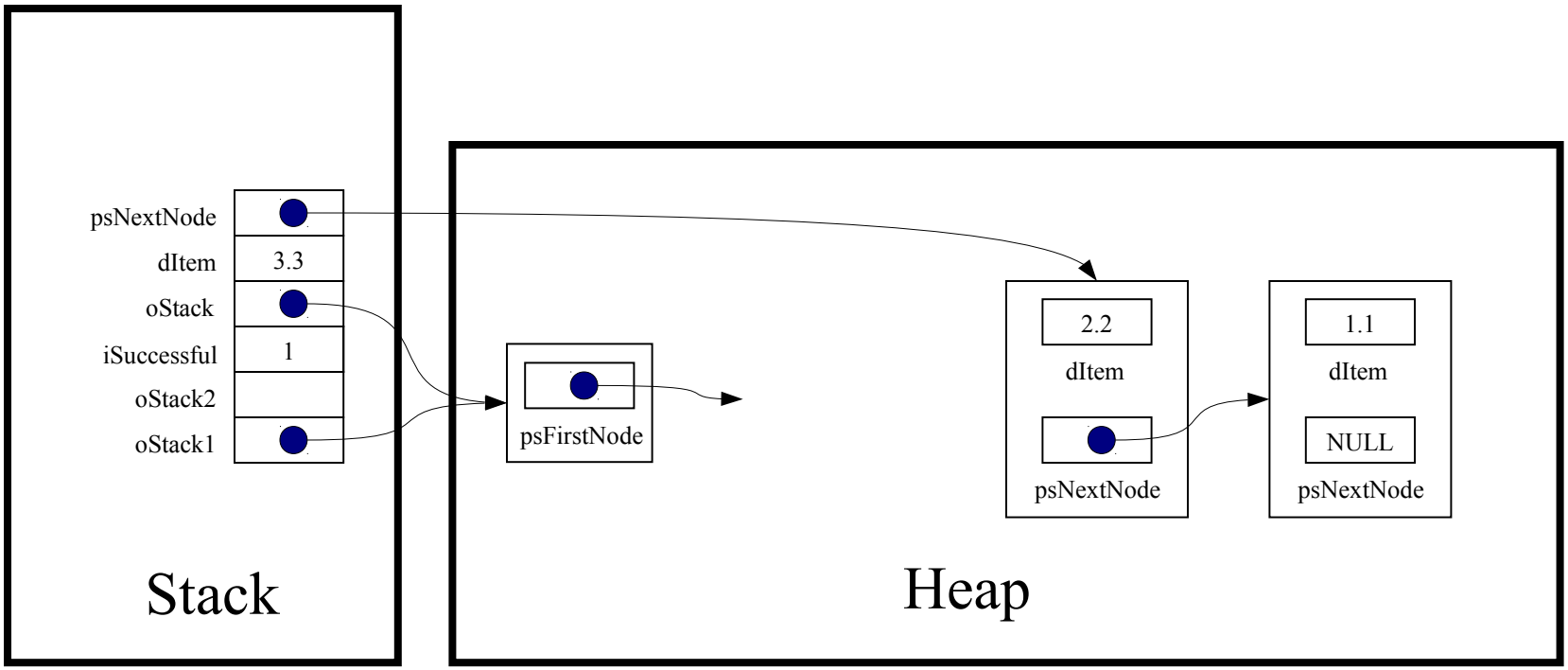
```
free(oStack->psFirstNode);
```



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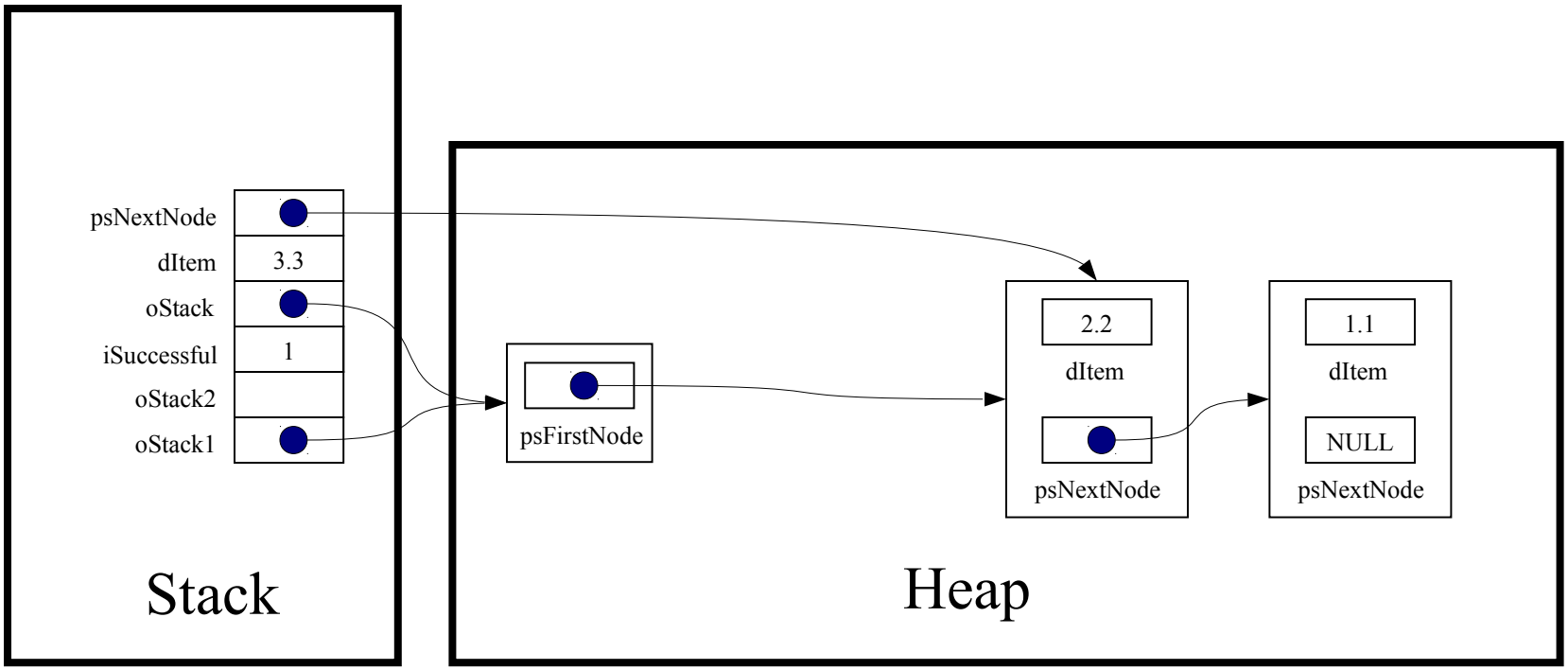
```
oStack->psFirstNode = psNextNode;
```



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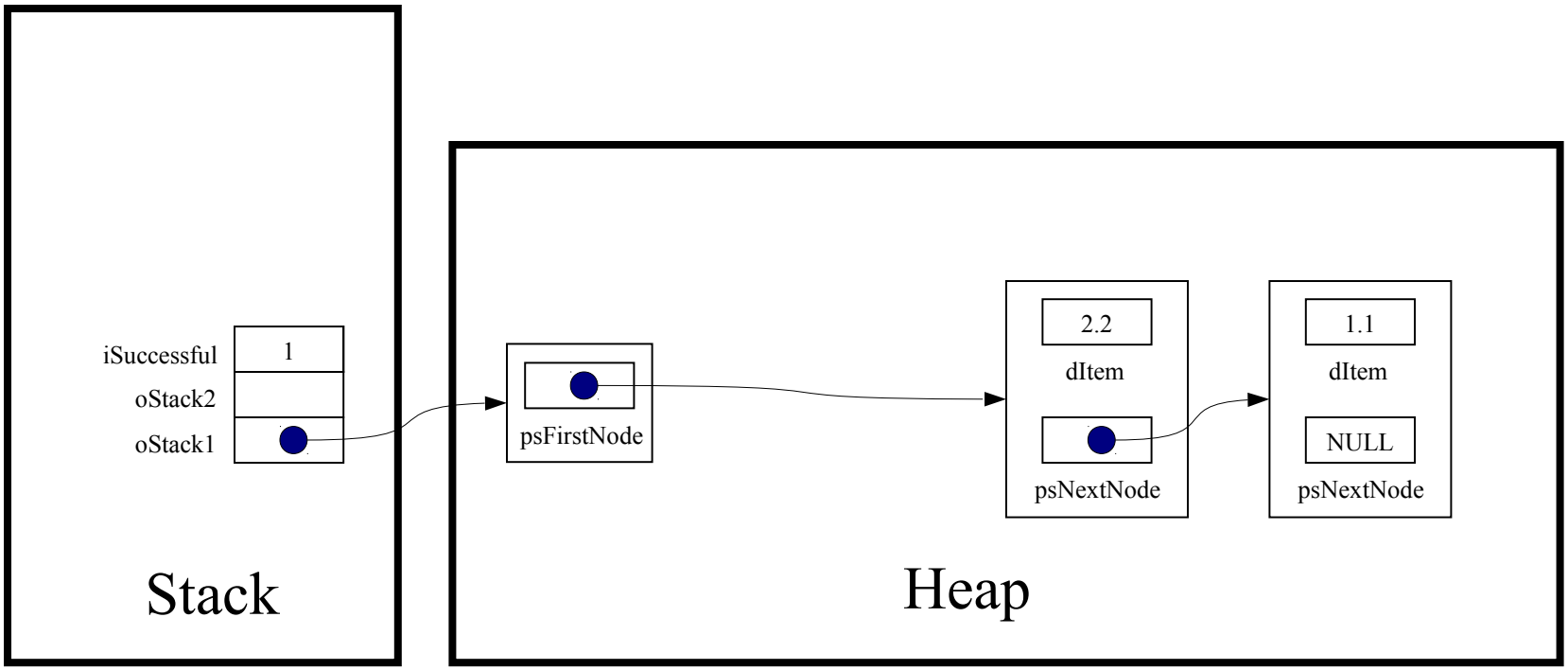
```
return dItem;
```



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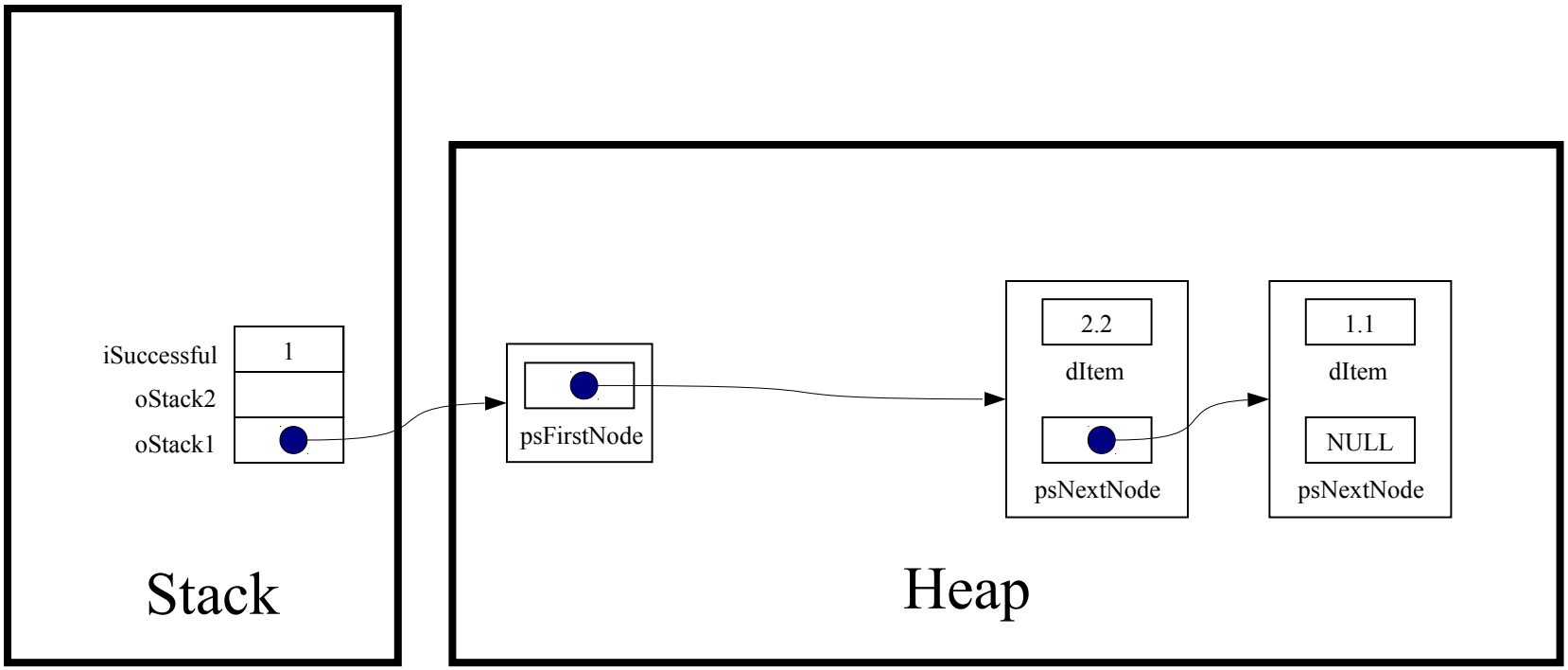
```
printf("%g\n", Stack_pop(oStack1));
```



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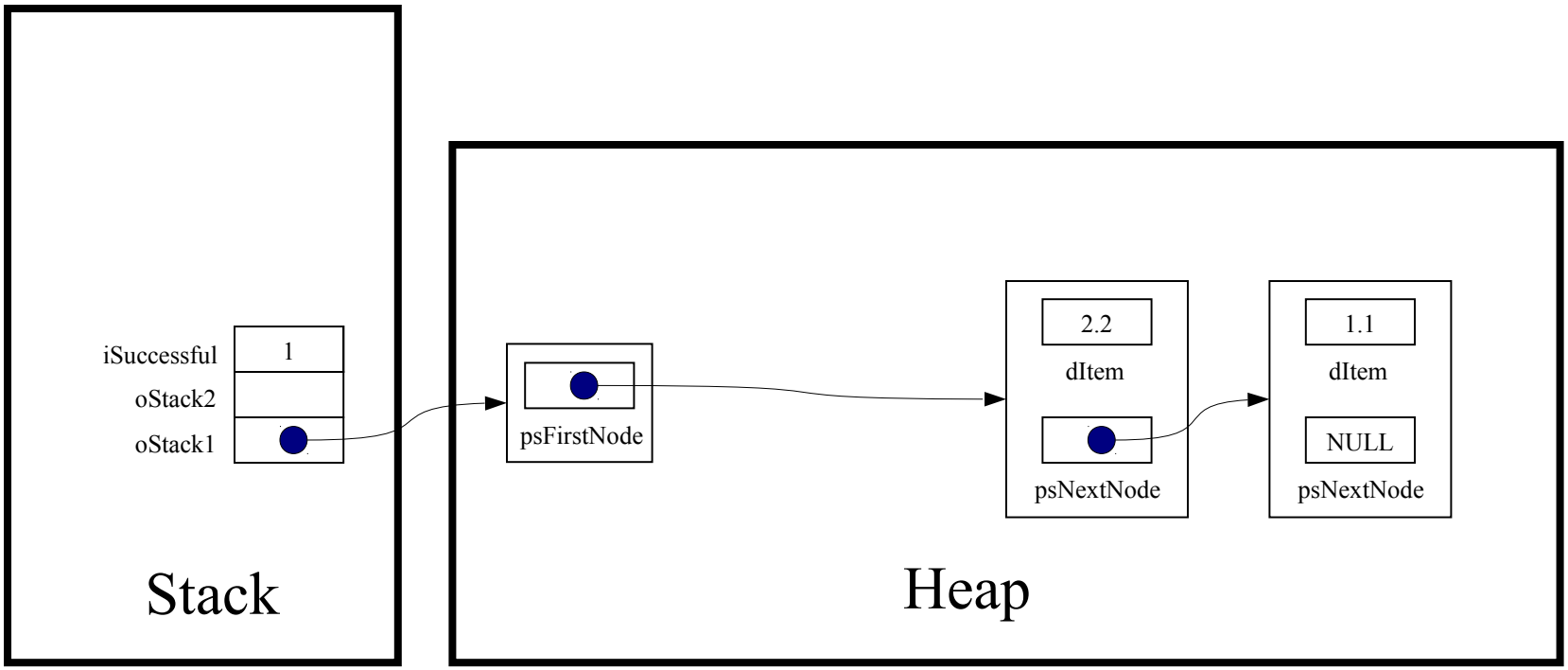
```
while (! Stack_isEmpty(oStack1))
   ...
```



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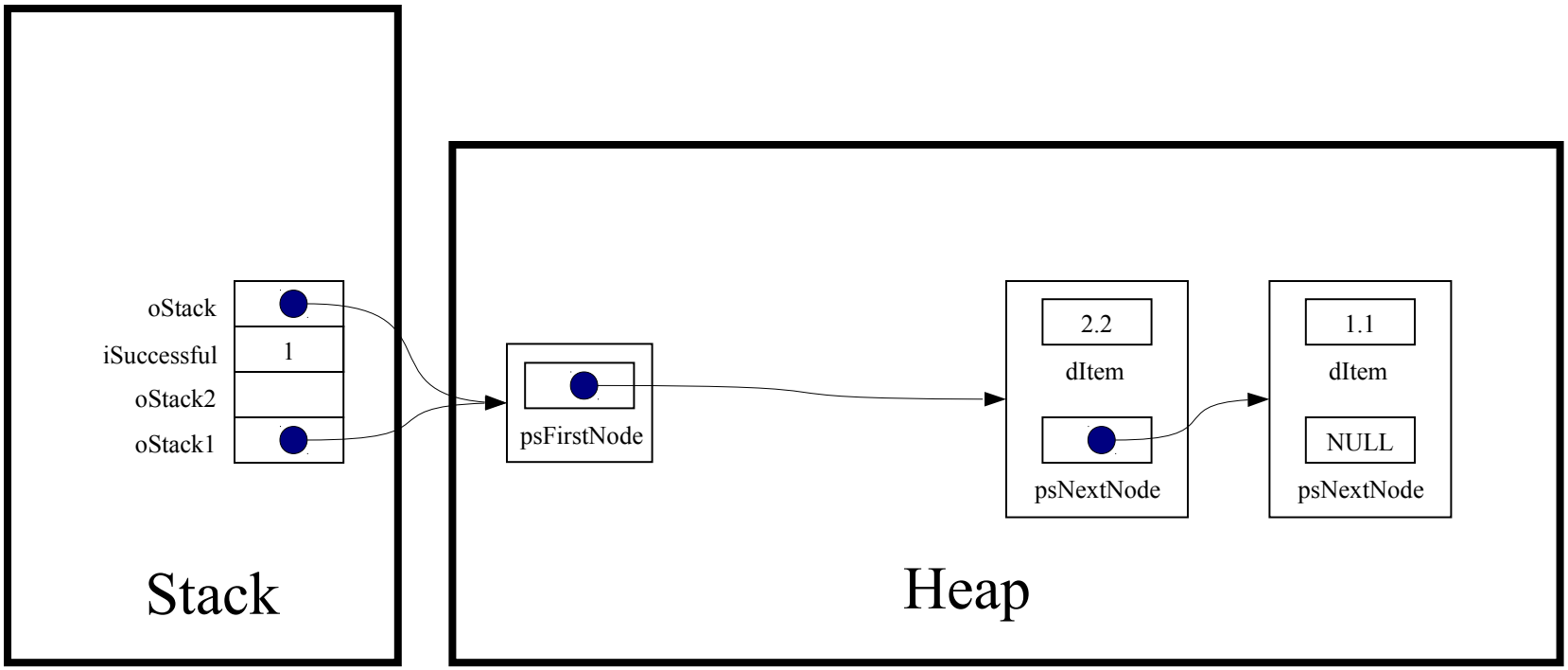
Trace of teststack (Version 4)

```
int Stack_isEmpty(Stack_T oStack)
```



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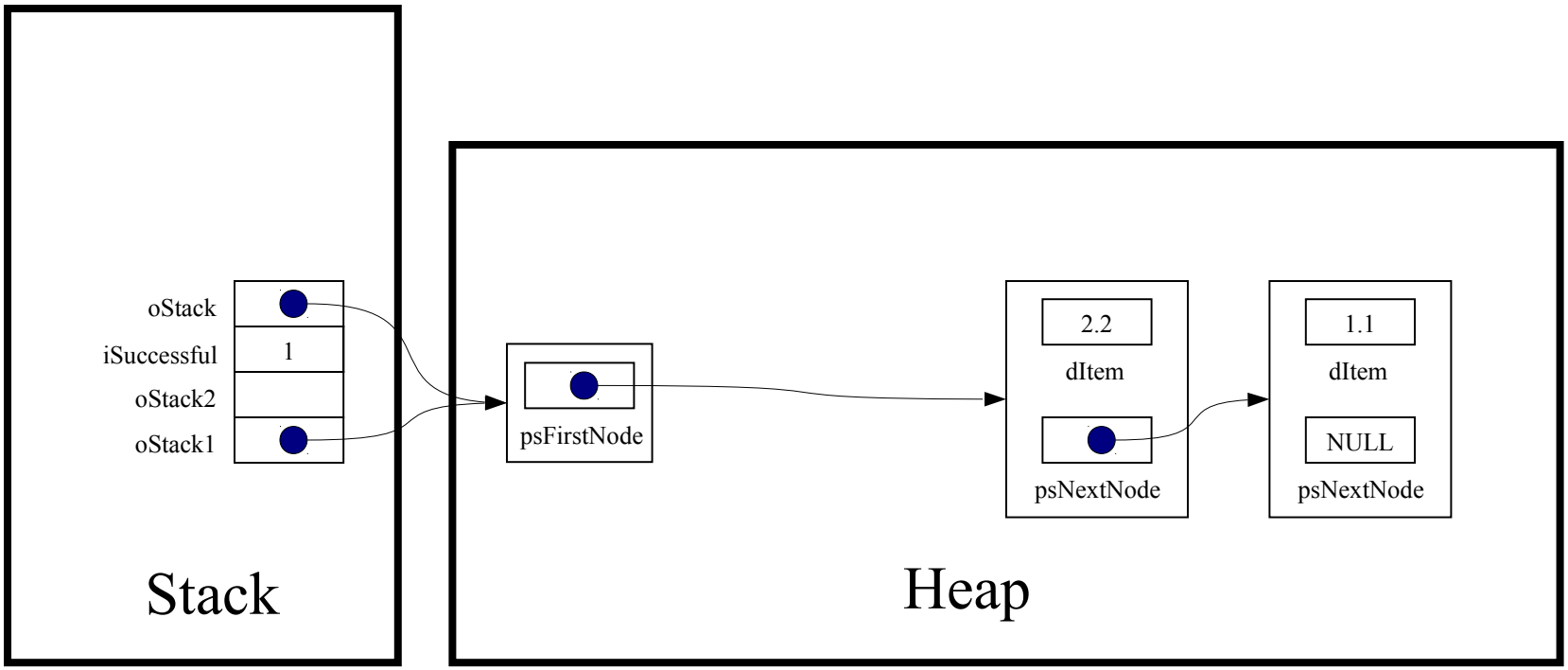
```
assert(oStack != NULL);
```



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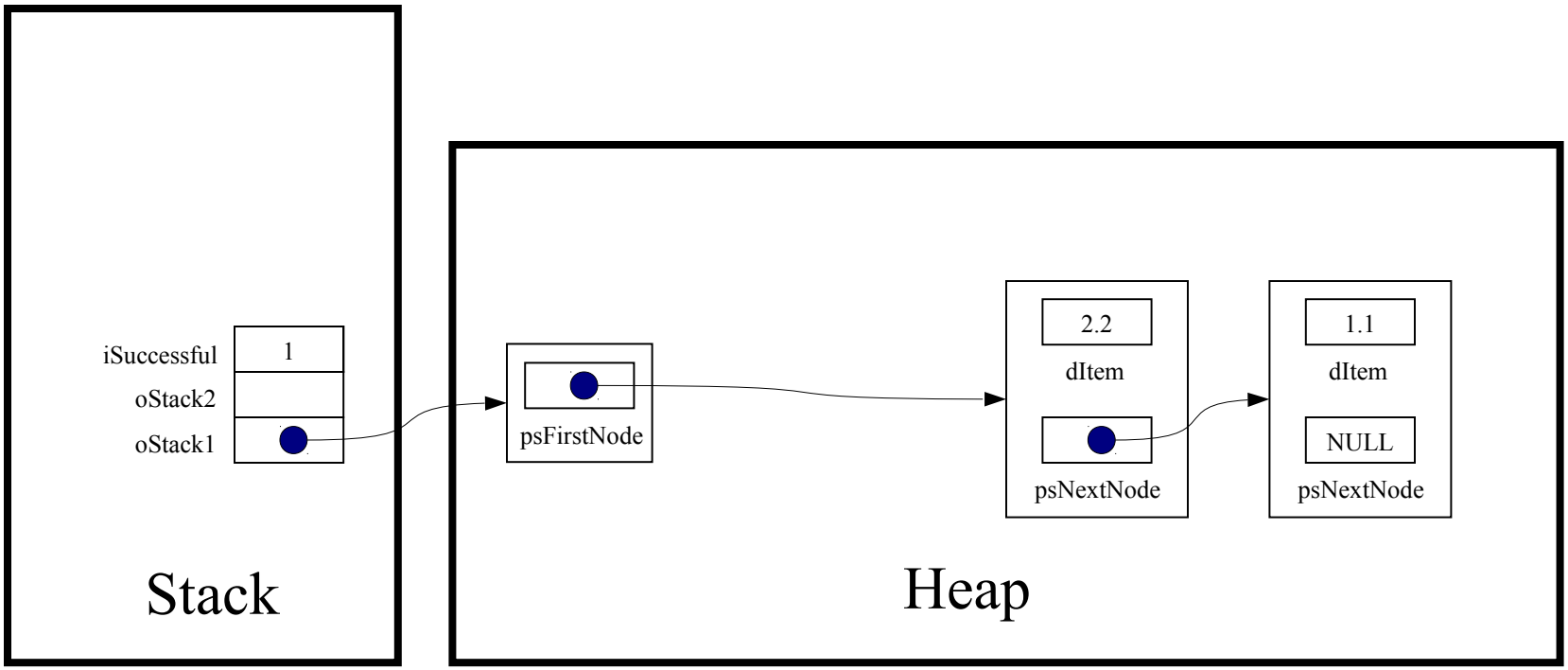
```
return oStack->psFirstNode == NULL;
```



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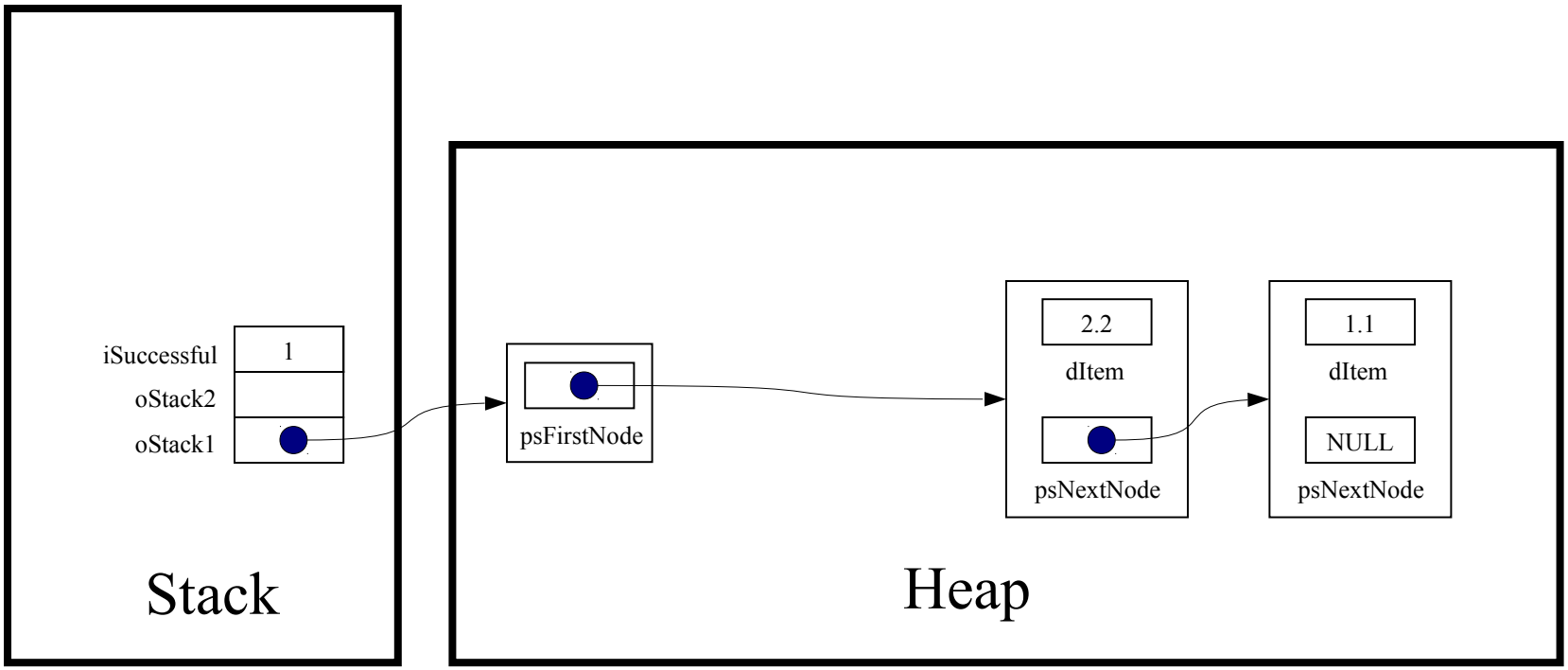
Trace of teststack (Version 4)

```
while (! Stack_isEmpty(oStack1))
   ...
```



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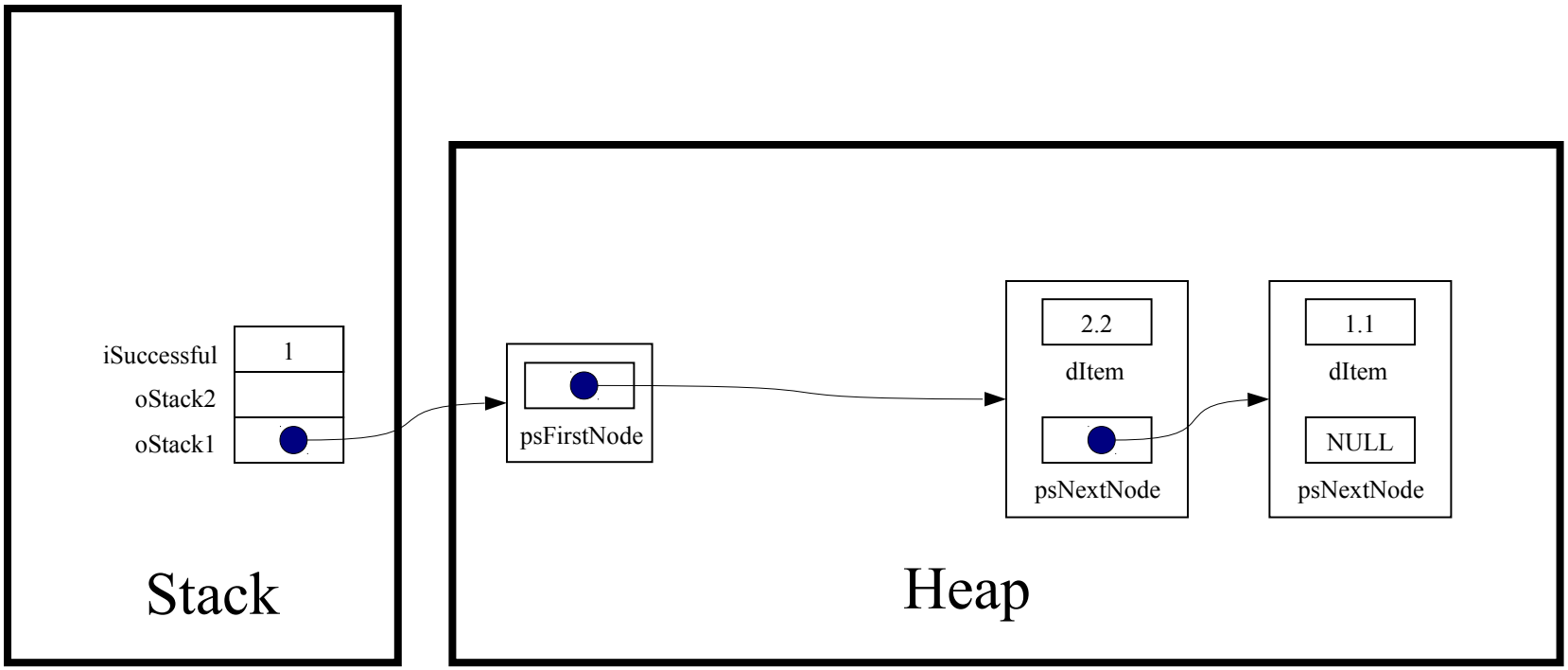
```
printf("%g\n", Stack_pop(oStack1));
```



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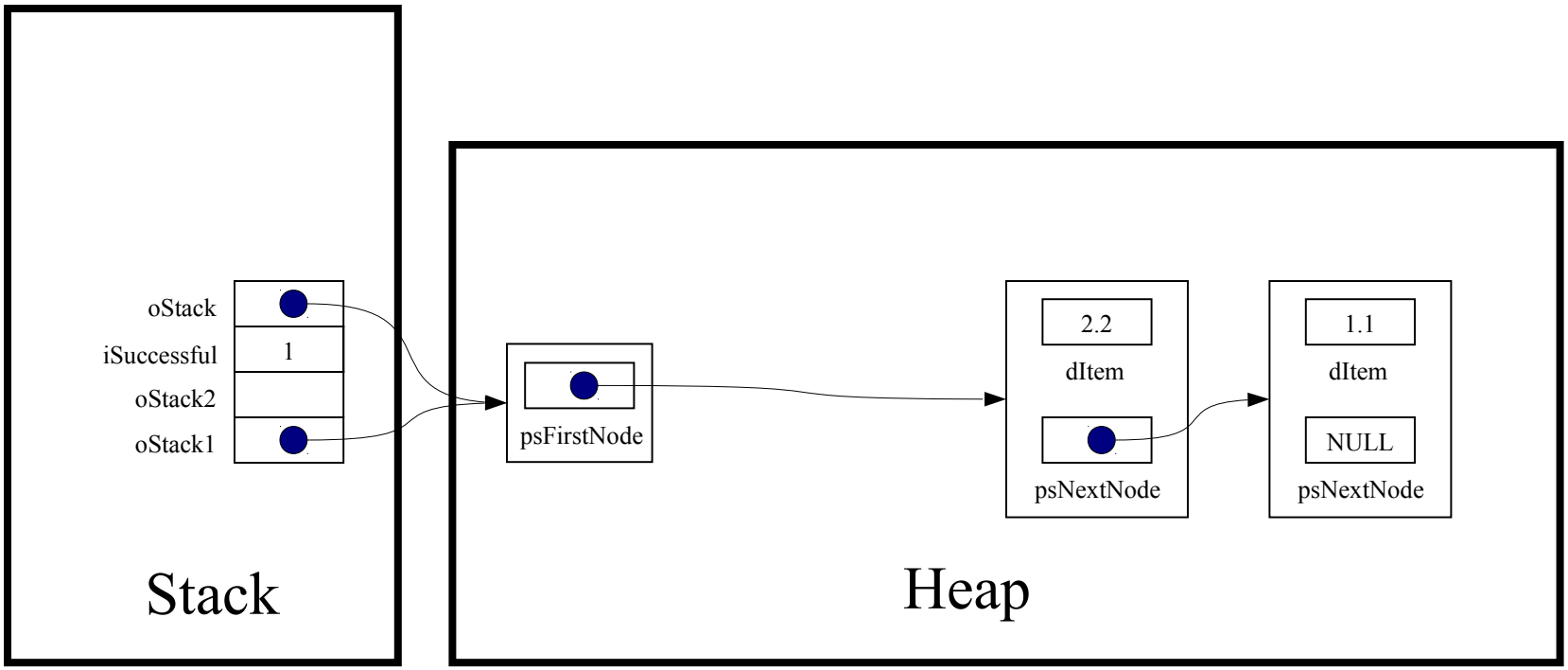
Trace of teststack (Version 4)

```
double Stack_pop(Stack_T oStack)
```



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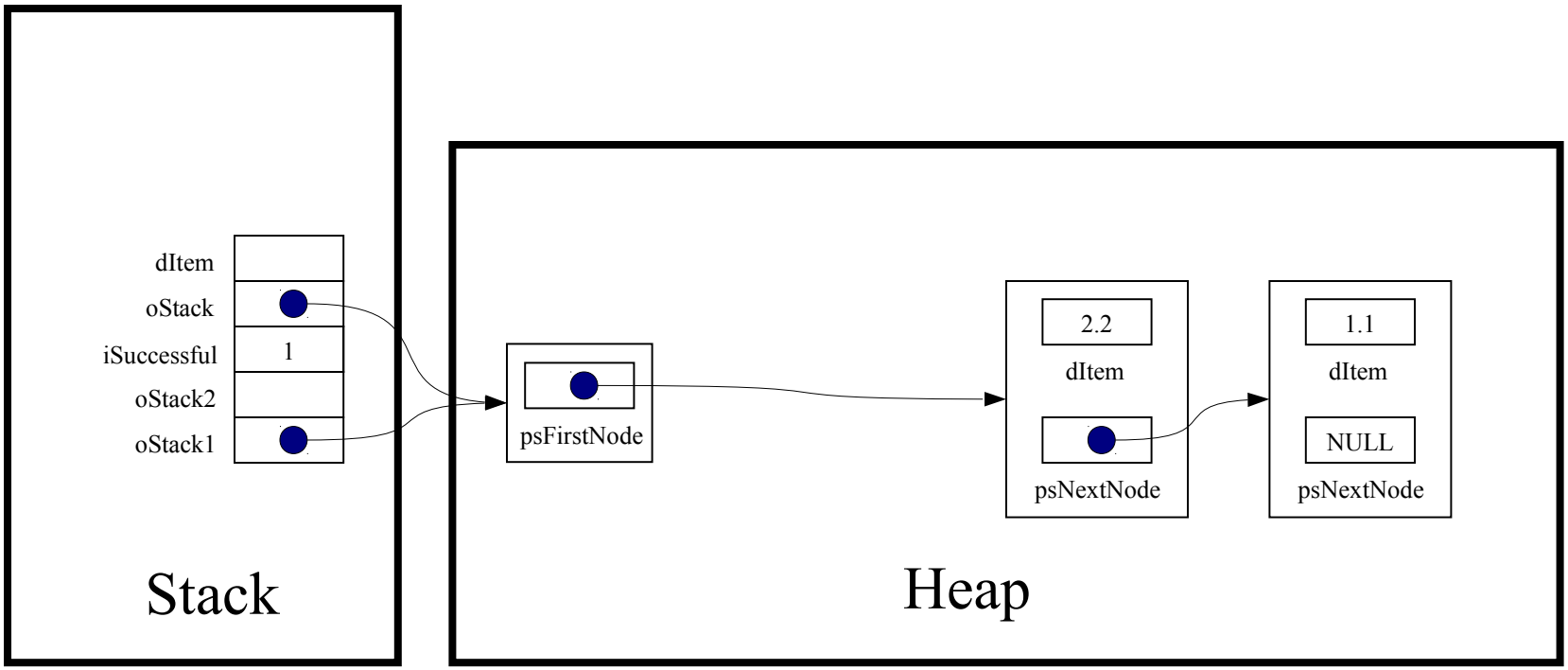
```
double dItem;
```



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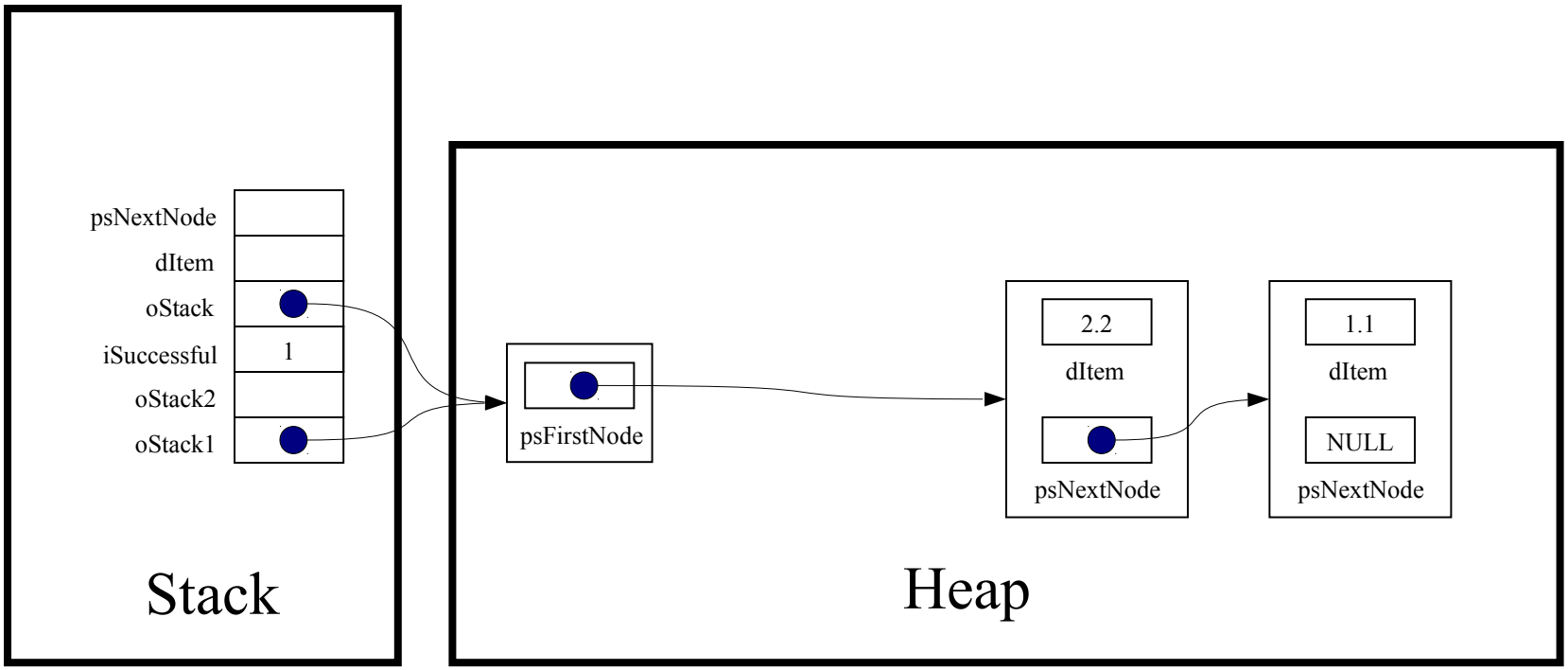
```
struct StackNode *psNextNode;
```



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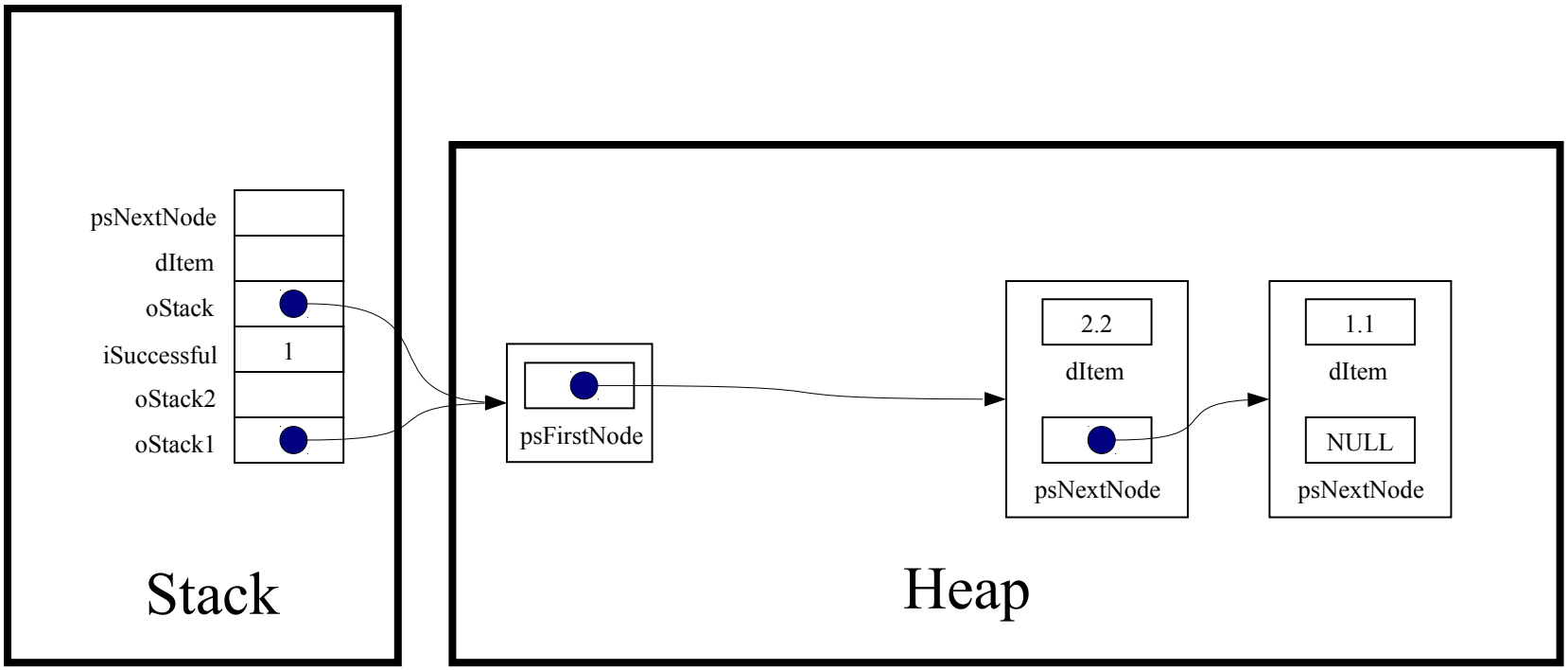
```
assert(oStack != NULL);
```



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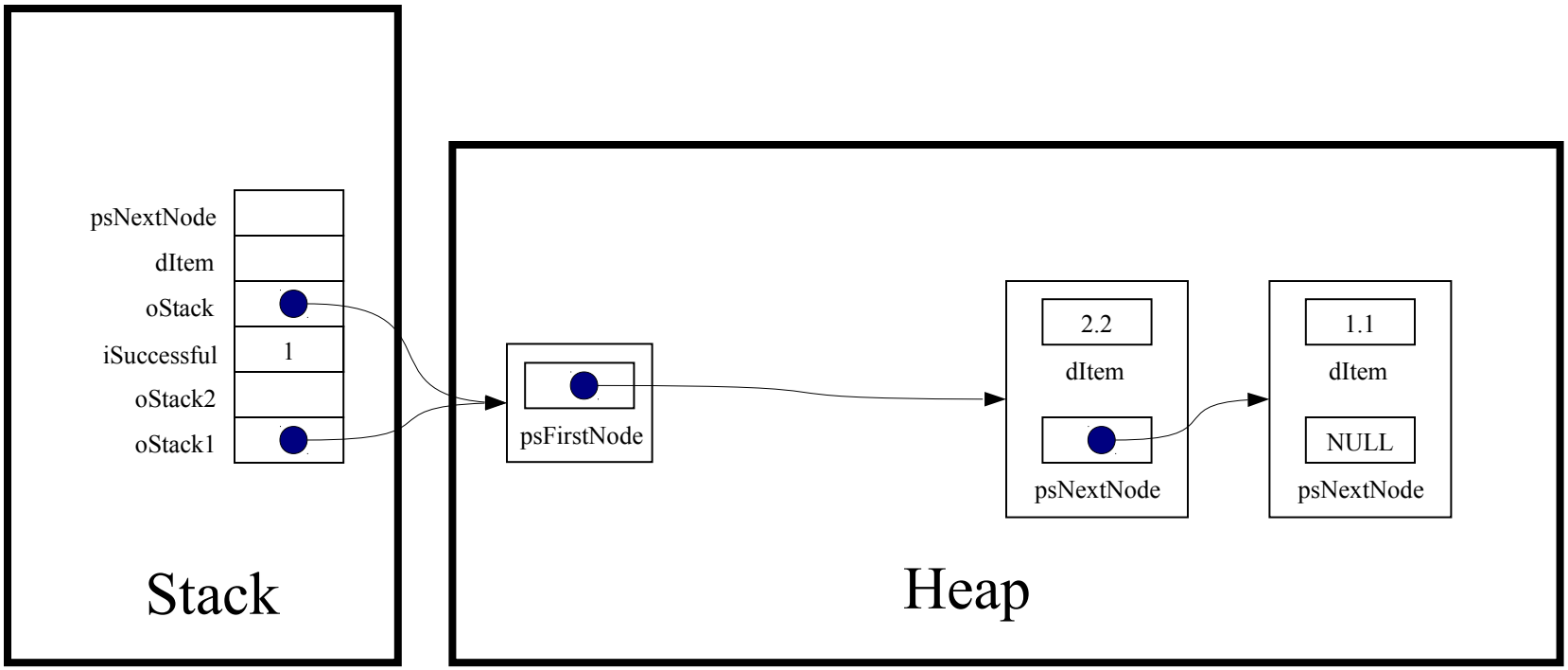
```
assert(oStack->psFirstNode != NULL);
```



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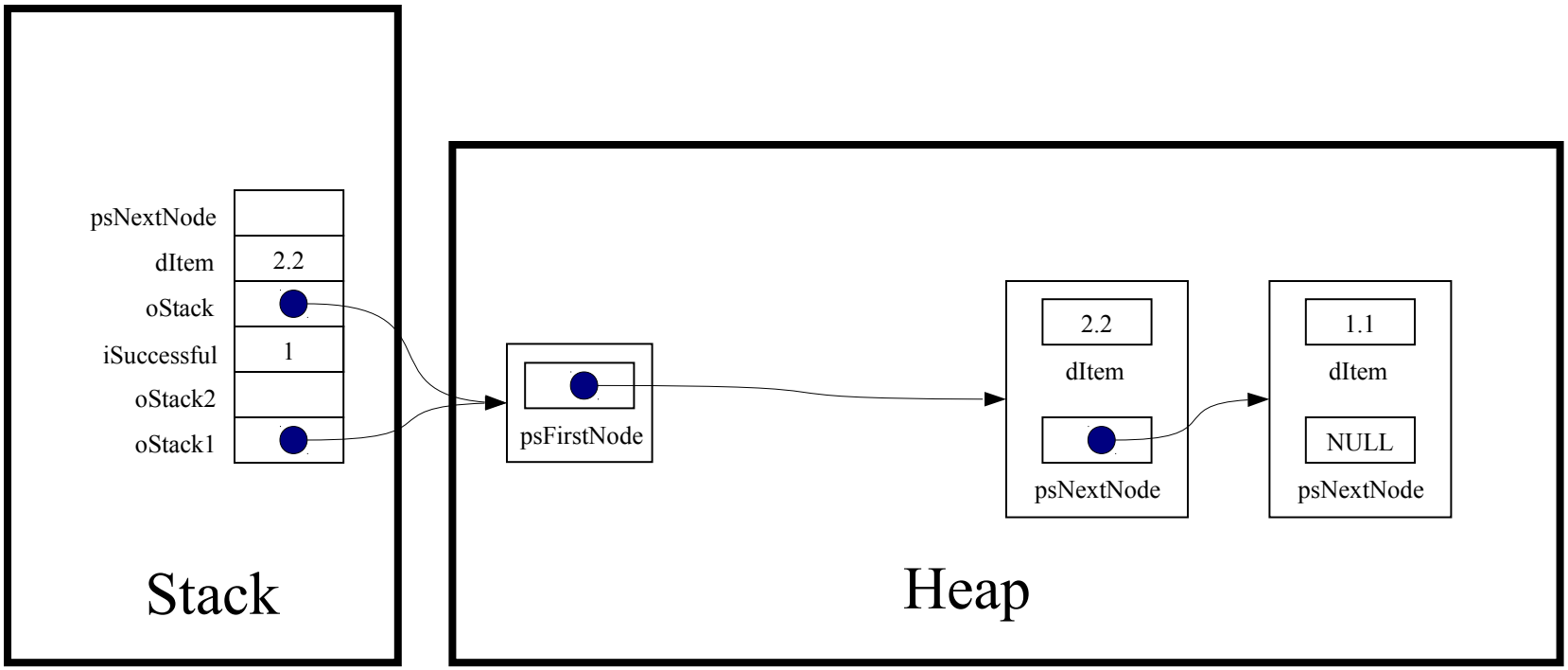
Trace of teststack (Version 4)

```
dItem = oStack->psFirstNode->dItem;
```



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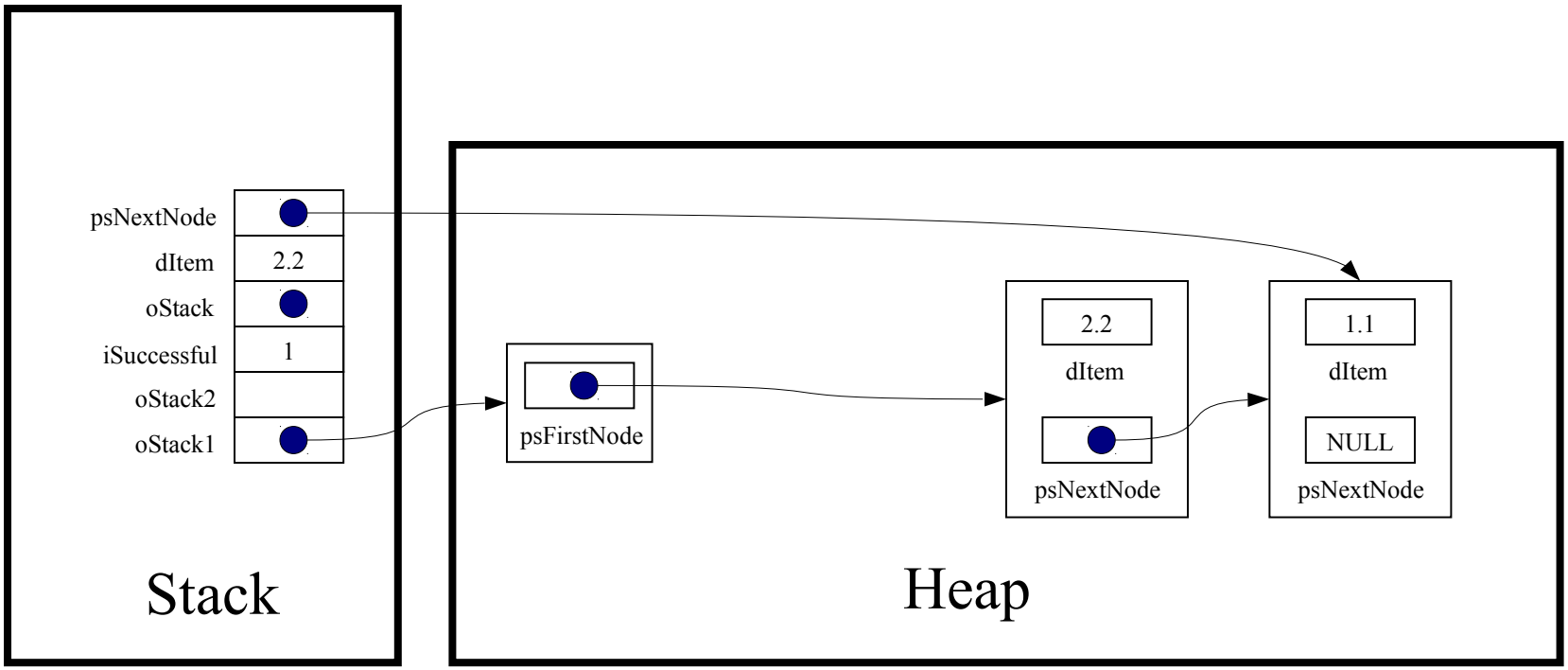
```
psNextNode = oStack->psFirstNode->psNextNode;
```



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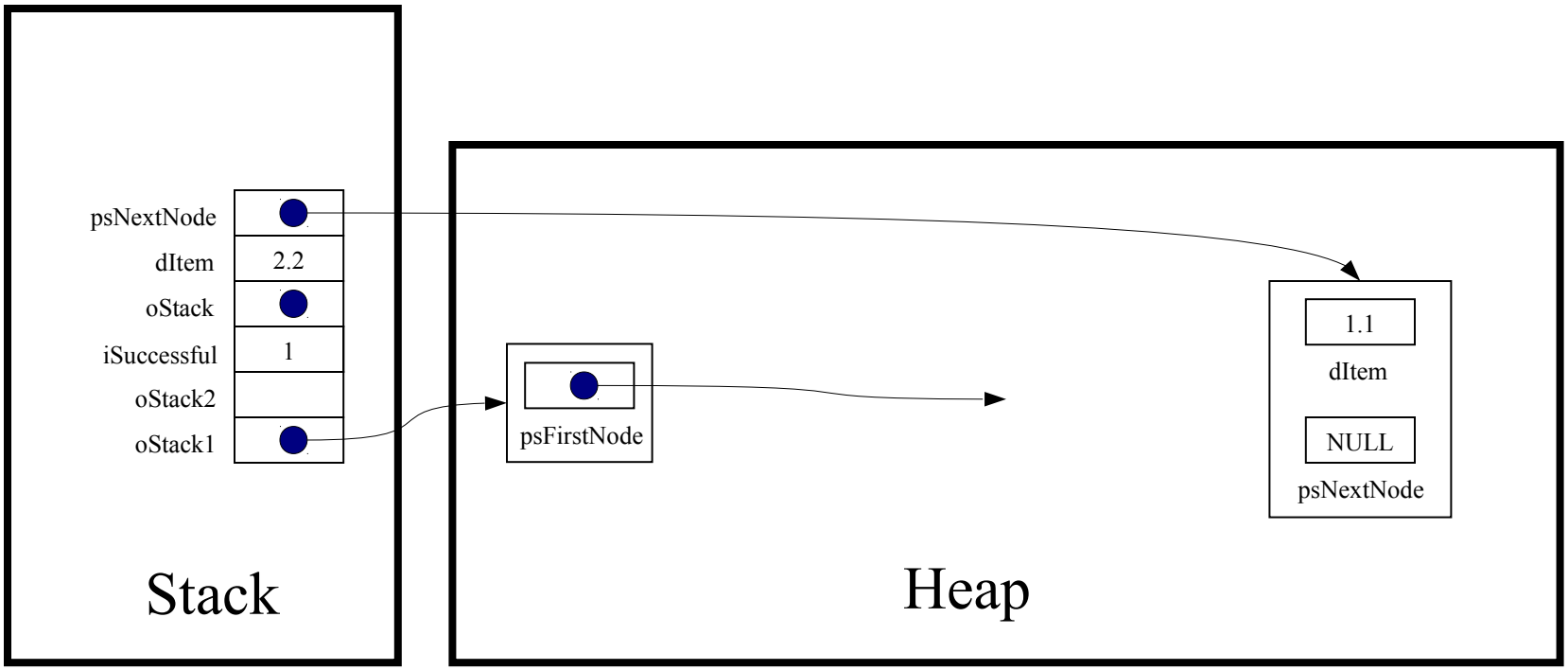
```
free(oStack->psFirstNode);
```



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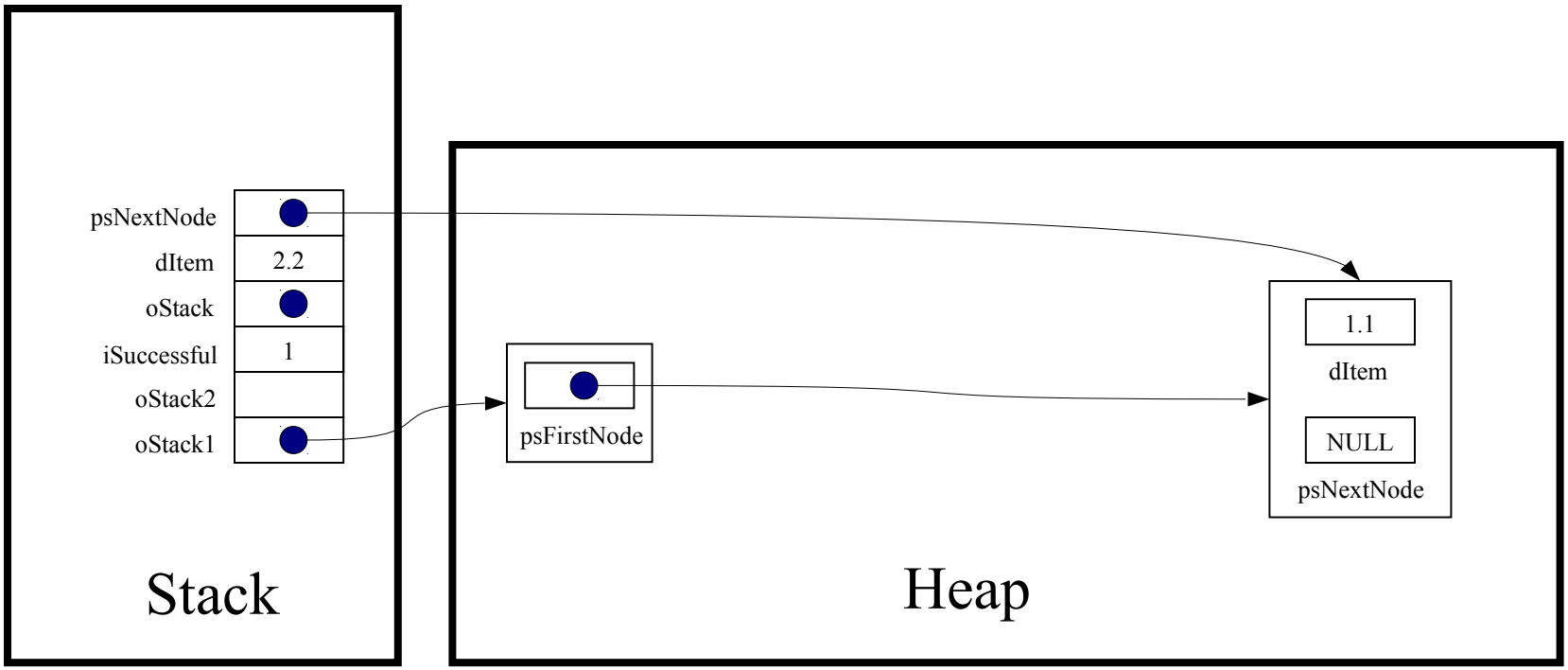
```
oStack->psFirstNode = psNextNode;
```



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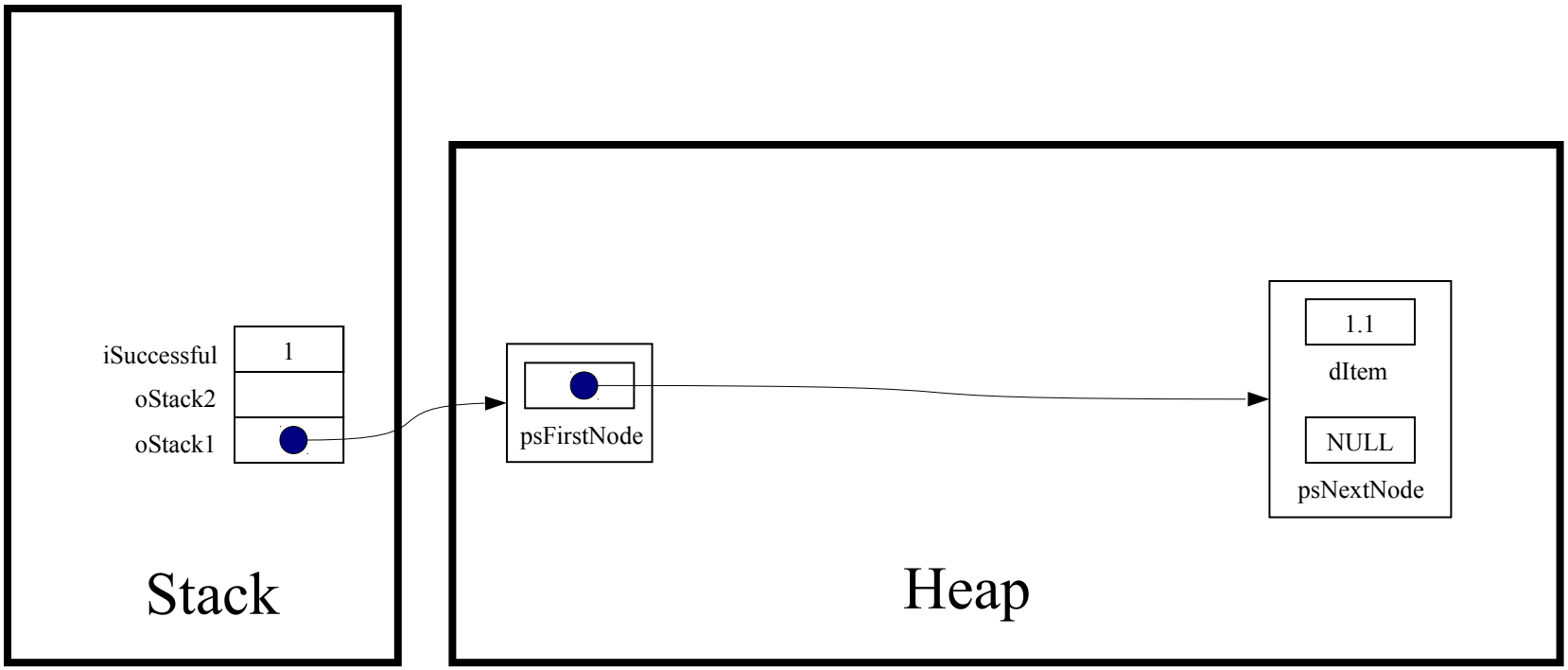
```
return dItem;
```



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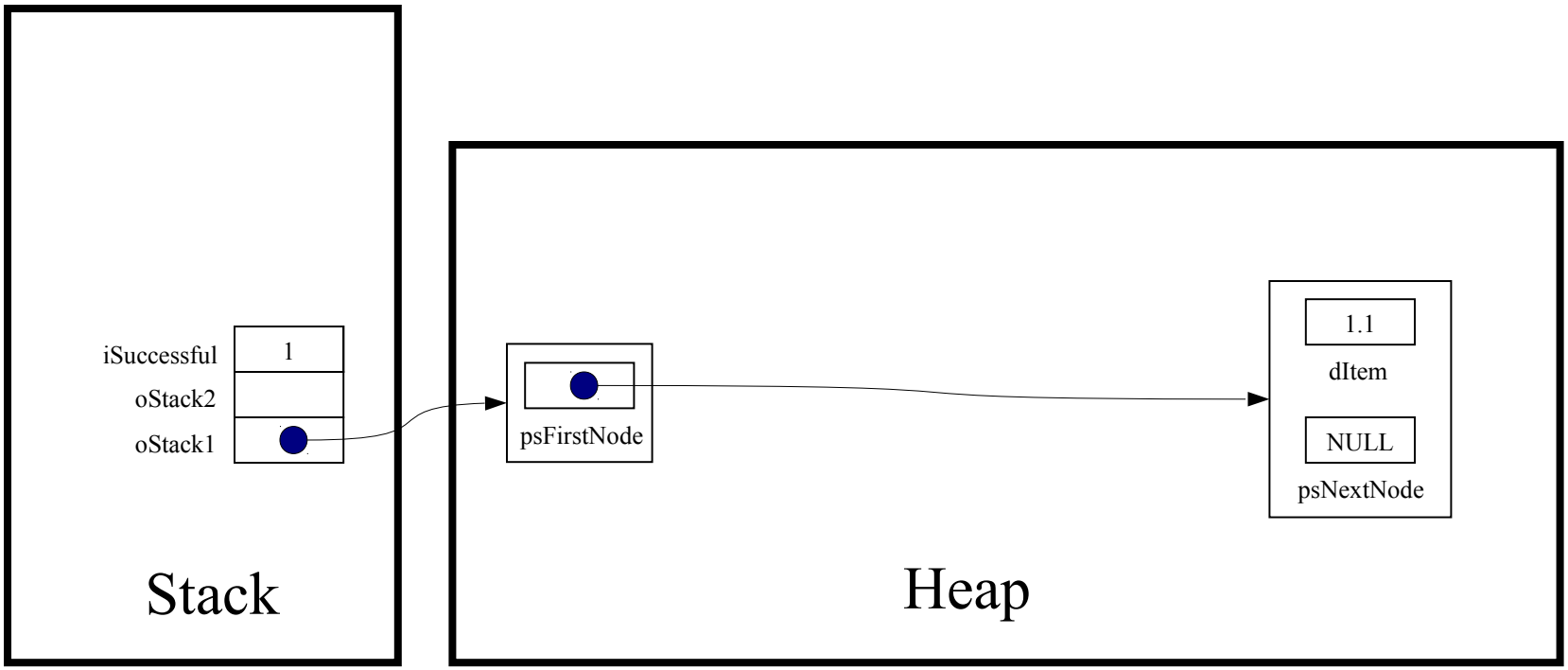
```
printf("%g\n", Stack_pop(oStack1));
```



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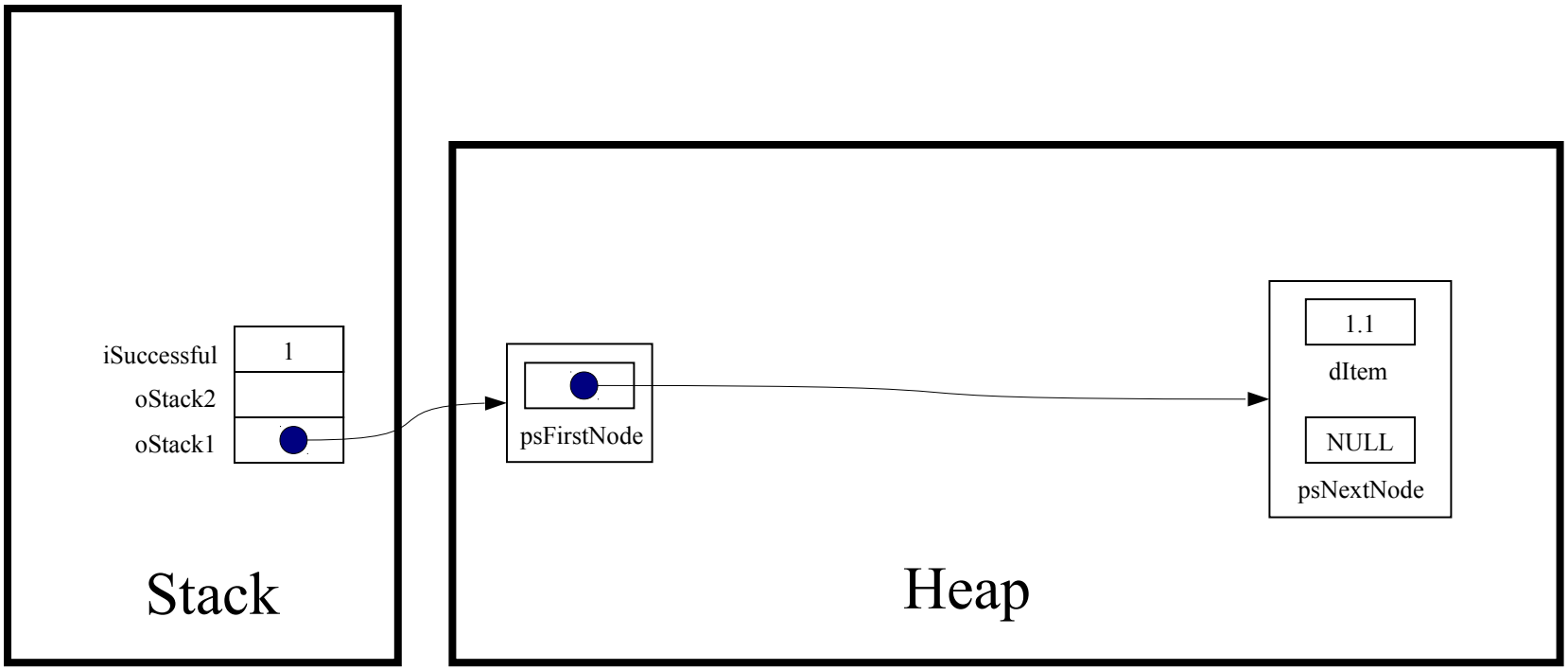
Trace of teststack (Version 4)

```
while (! Stack_isEmpty(oStack1))
   ...
```



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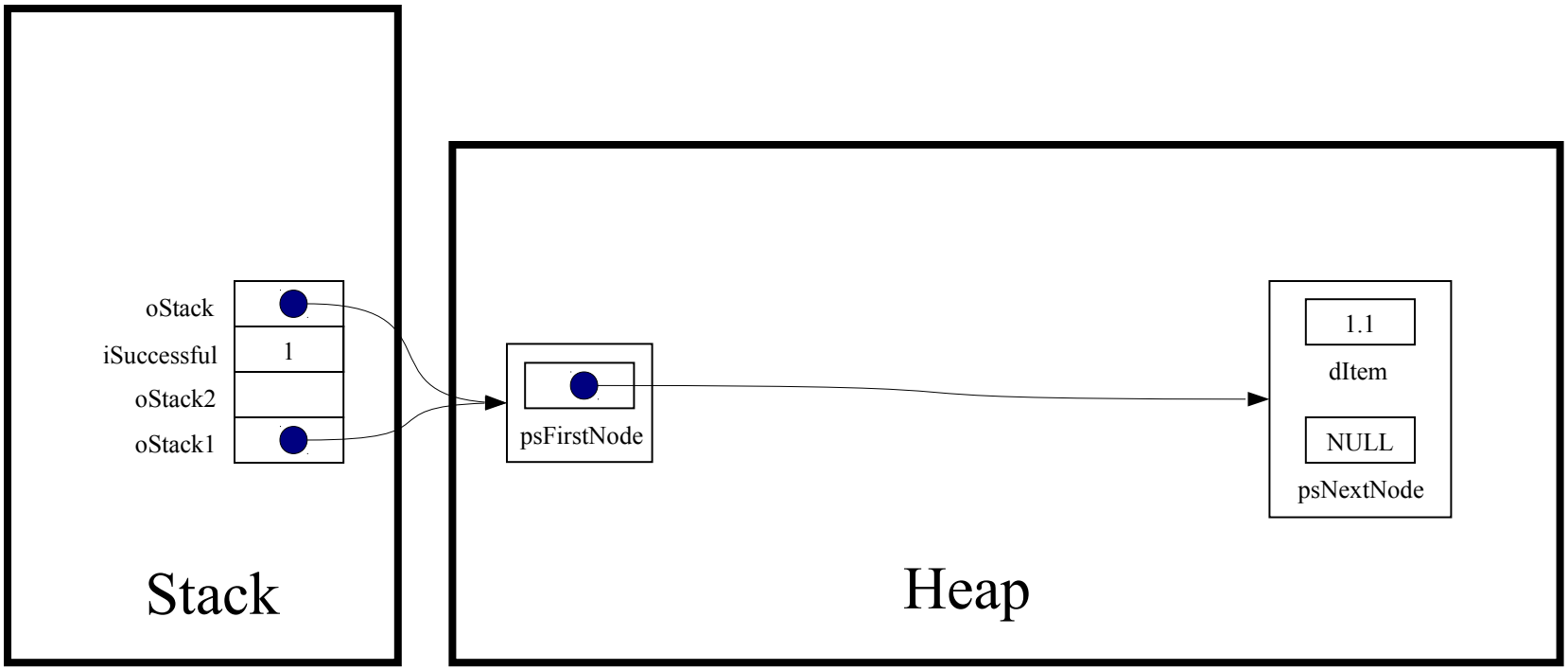
Trace of teststack (Version 4)

```
int Stack_isEmpty(Stack_T oStack)
```



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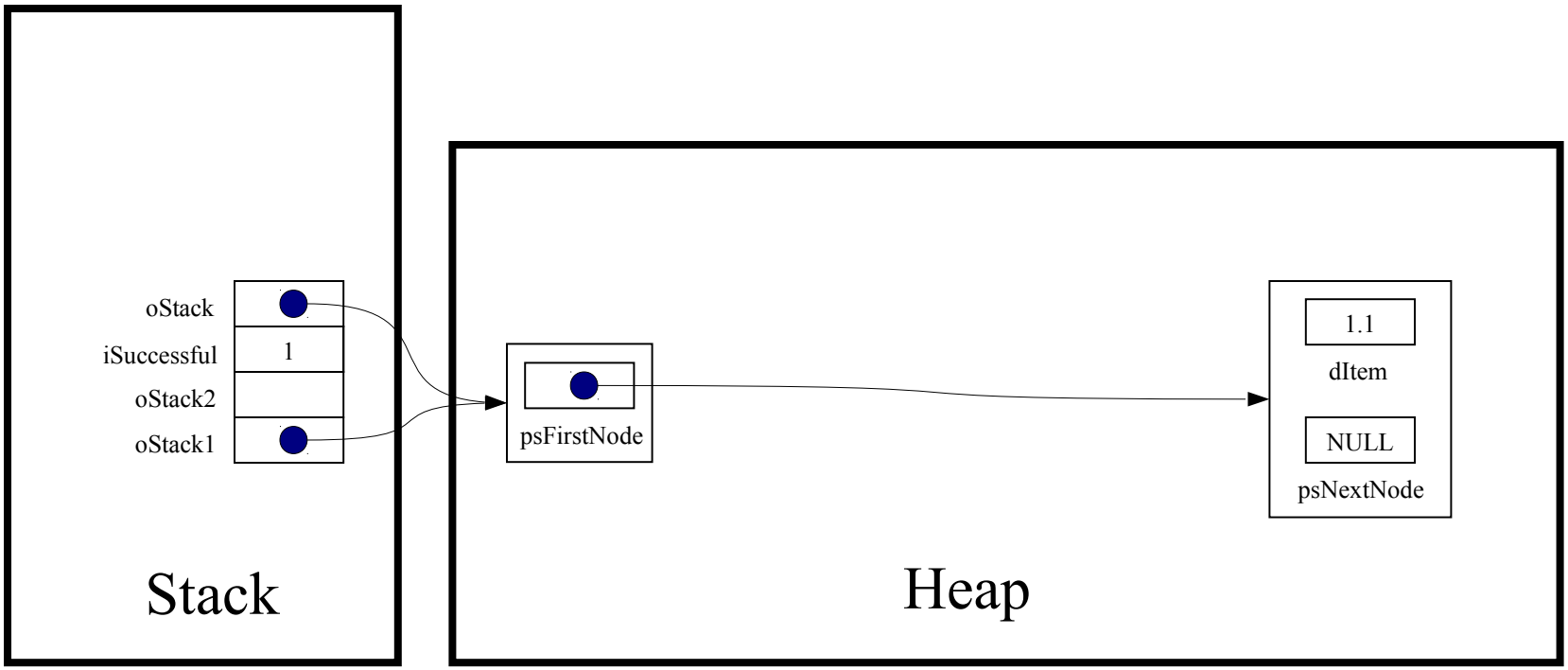
Trace of teststack (Version 4)

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



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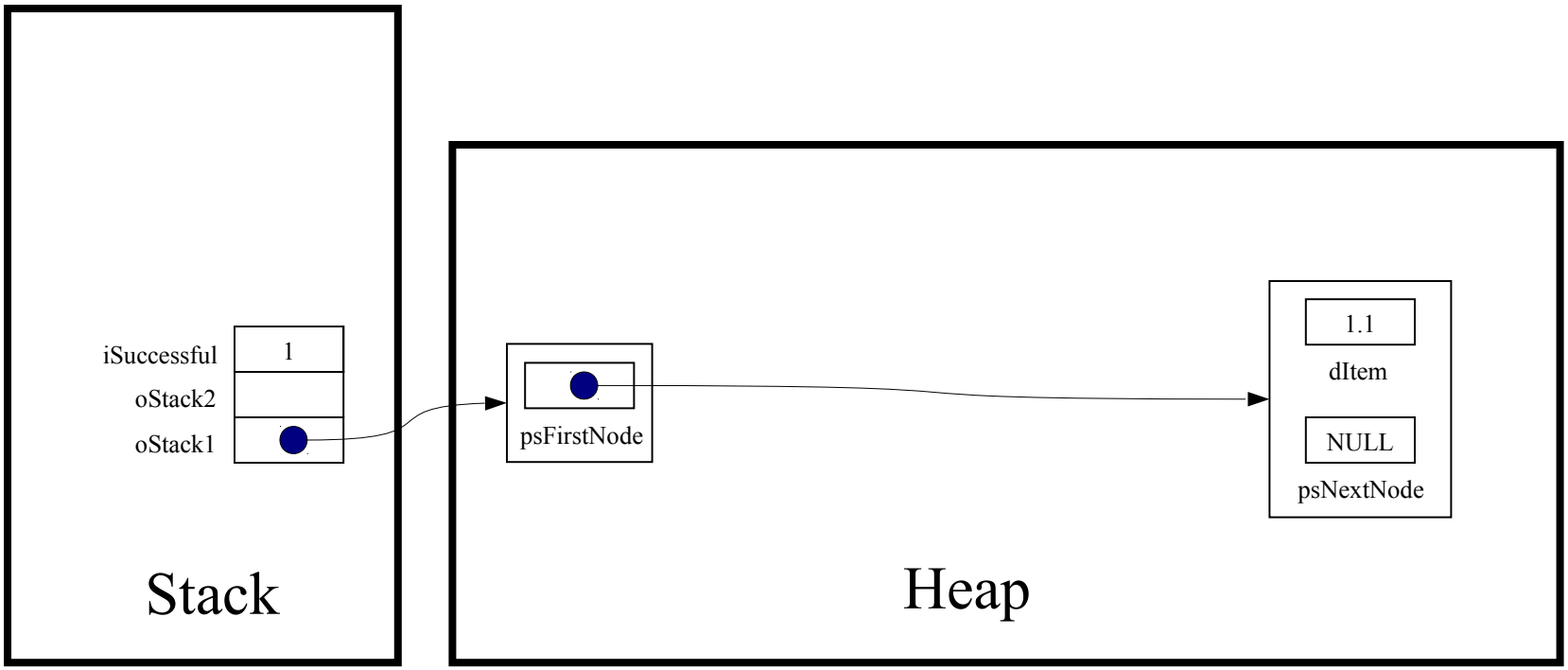
```
return oStack->psFirstNode == NULL;
```



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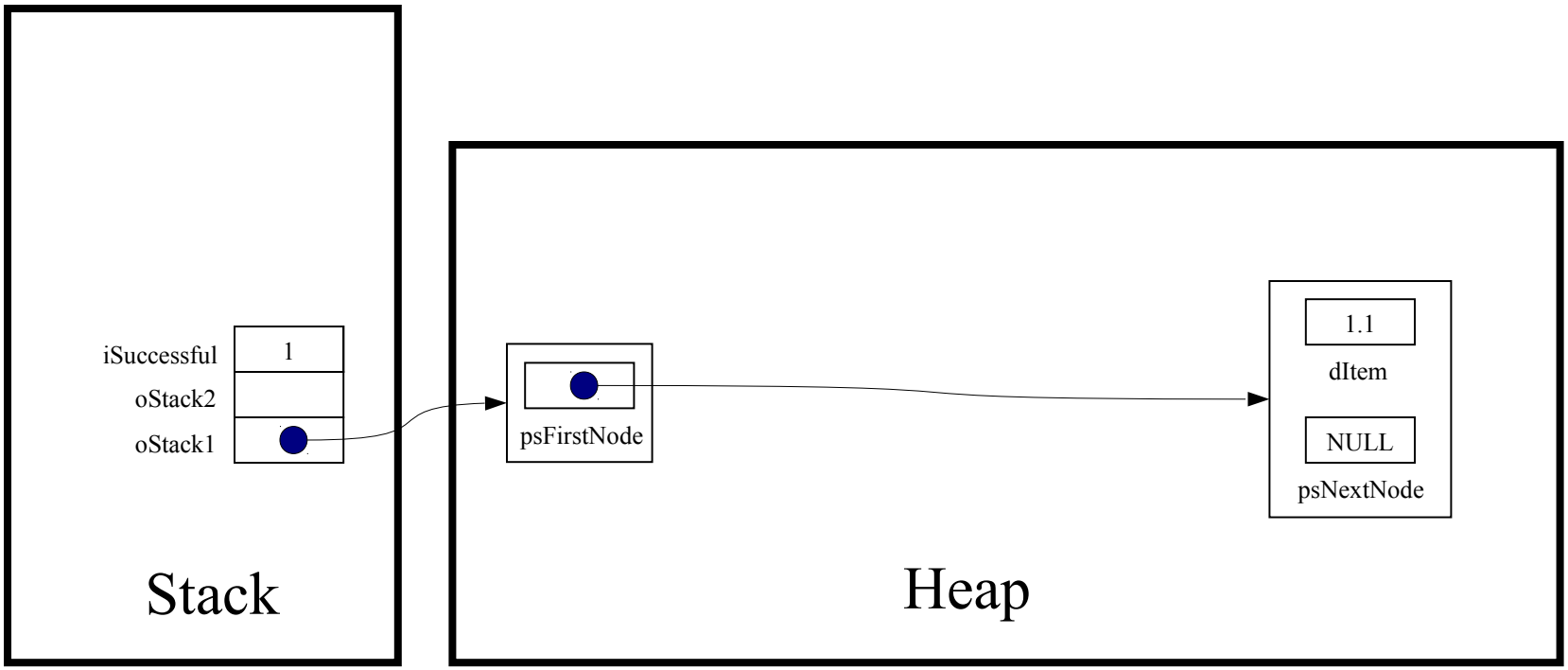
Trace of teststack (Version 4)

```
while (! Stack_isEmpty(oStack1))
   ...
```



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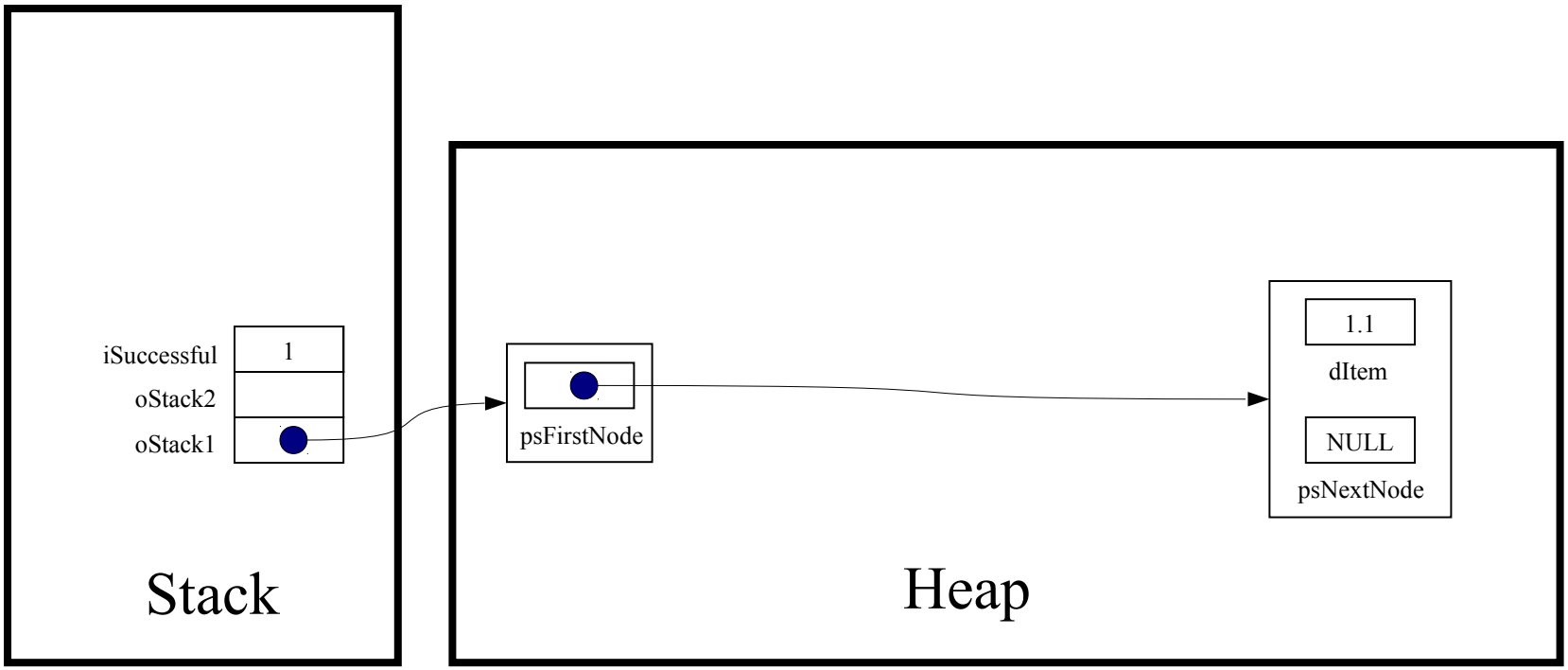
```
printf("%g\n", Stack_pop(oStack1));
```



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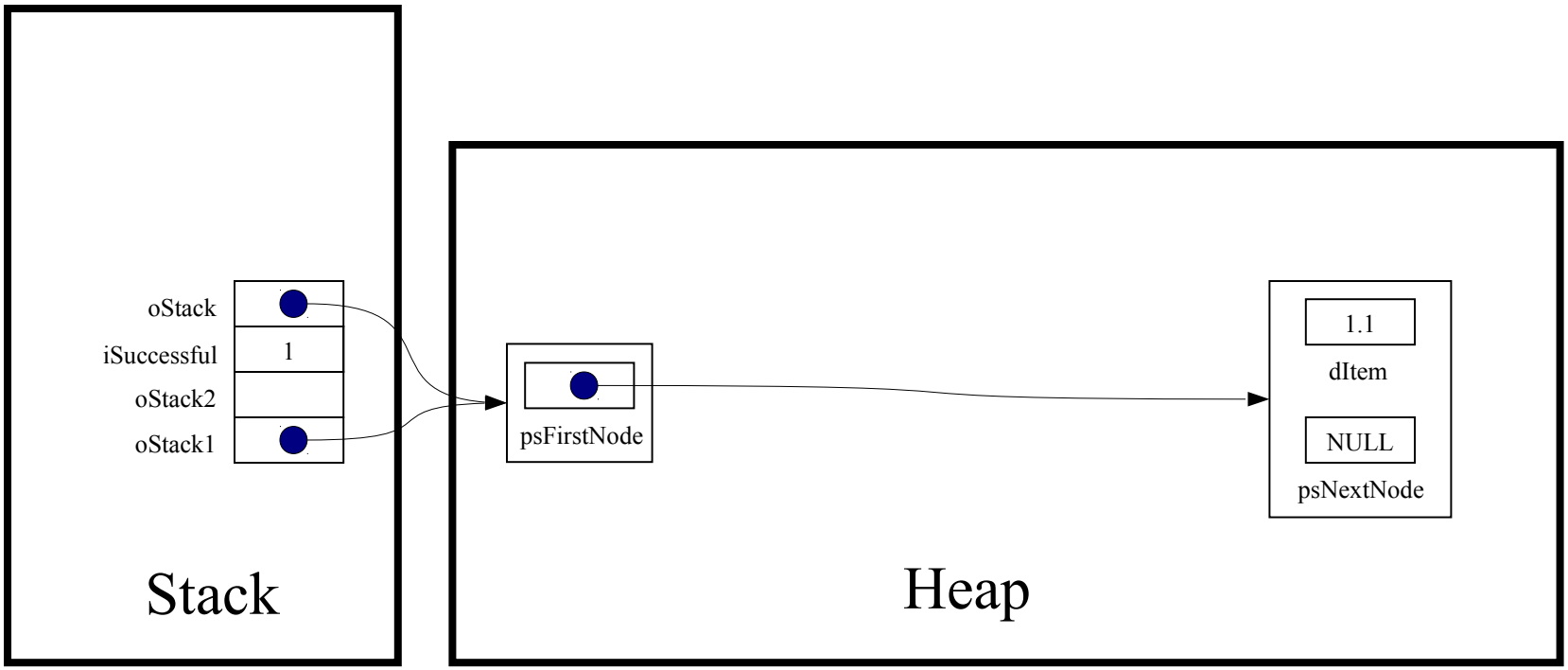
Trace of teststack (Version 4)

```
double Stack_pop(oStack)
```



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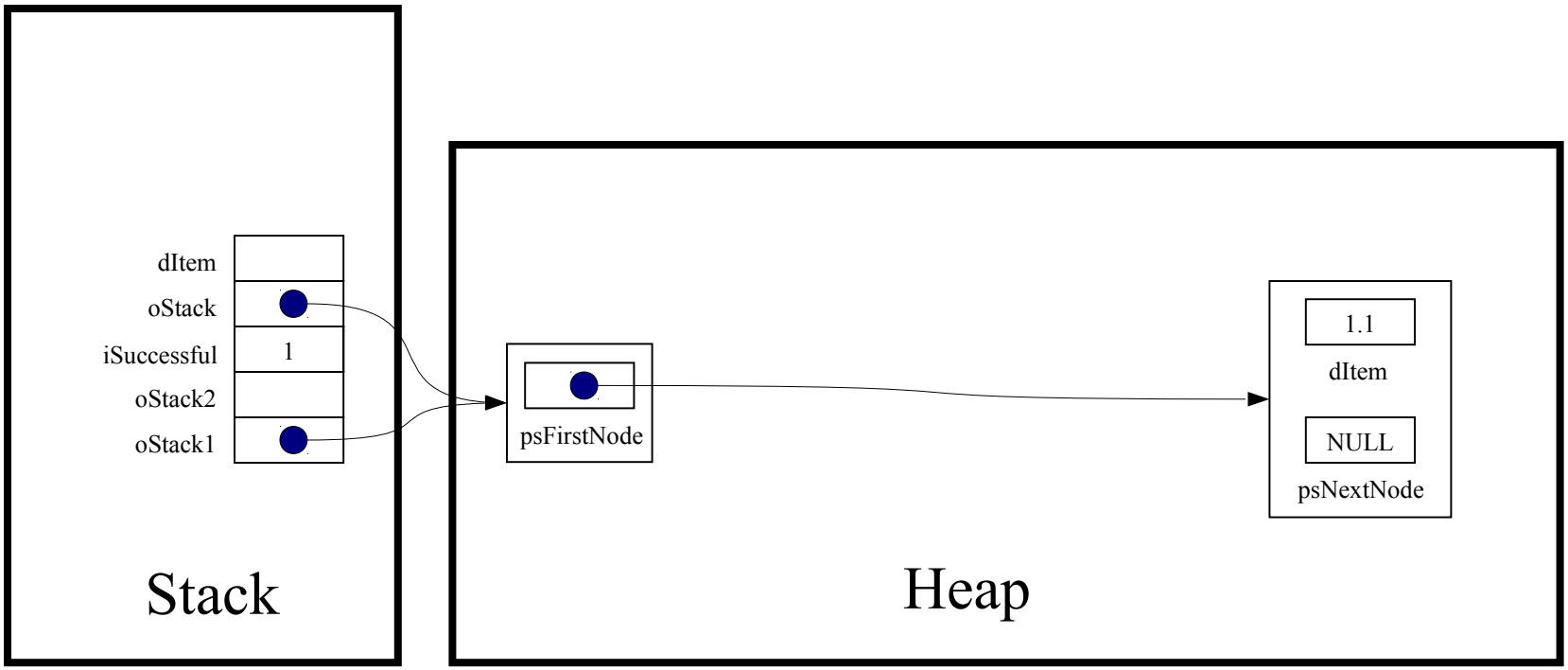
```
double dItem;
```



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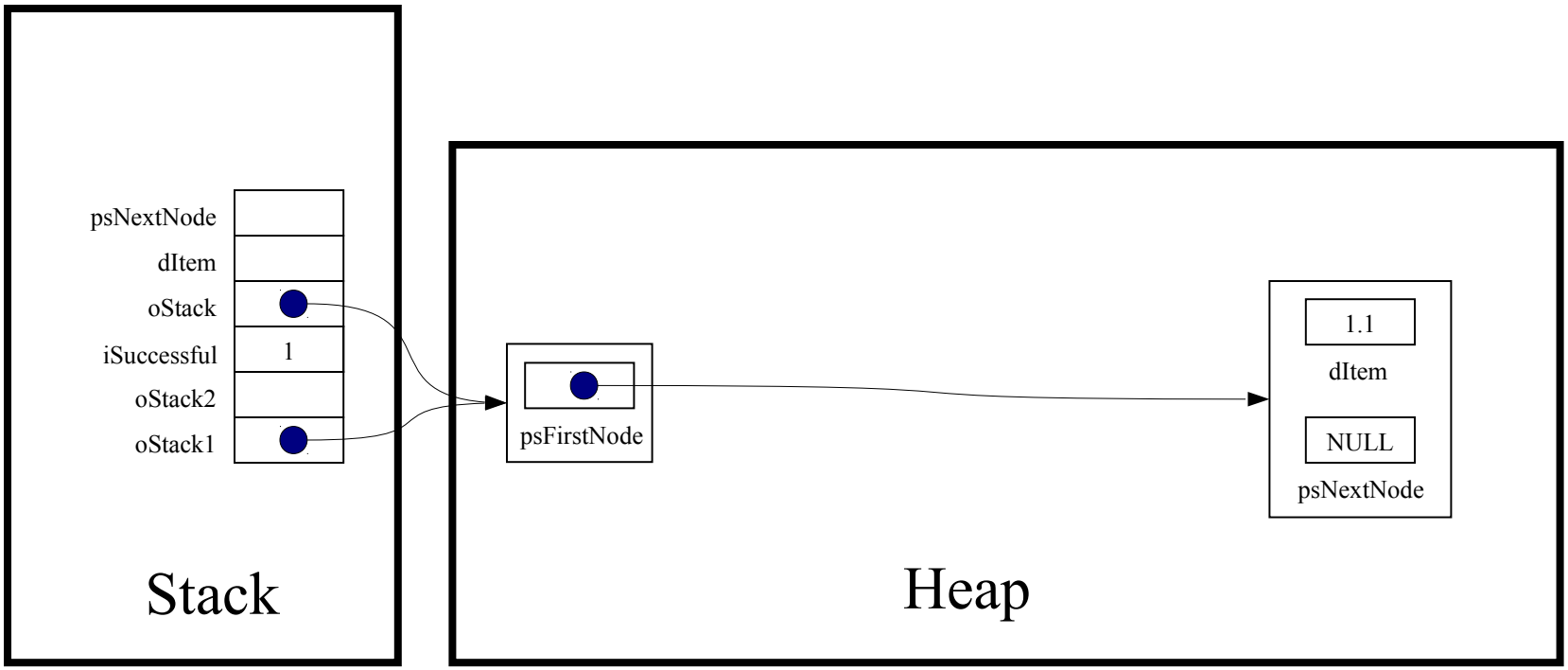
```
struct StackNode *psNextNode;
```



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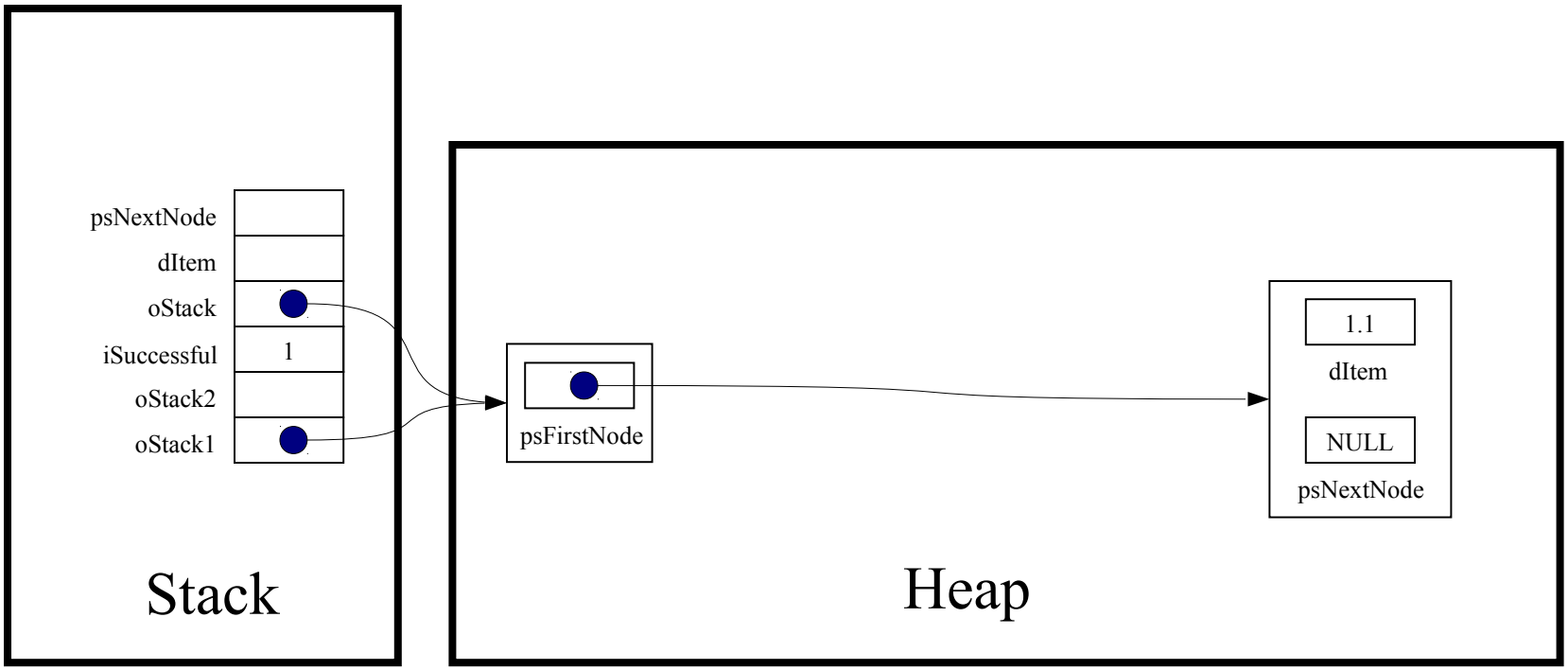
```
assert(oStack != NULL);
```



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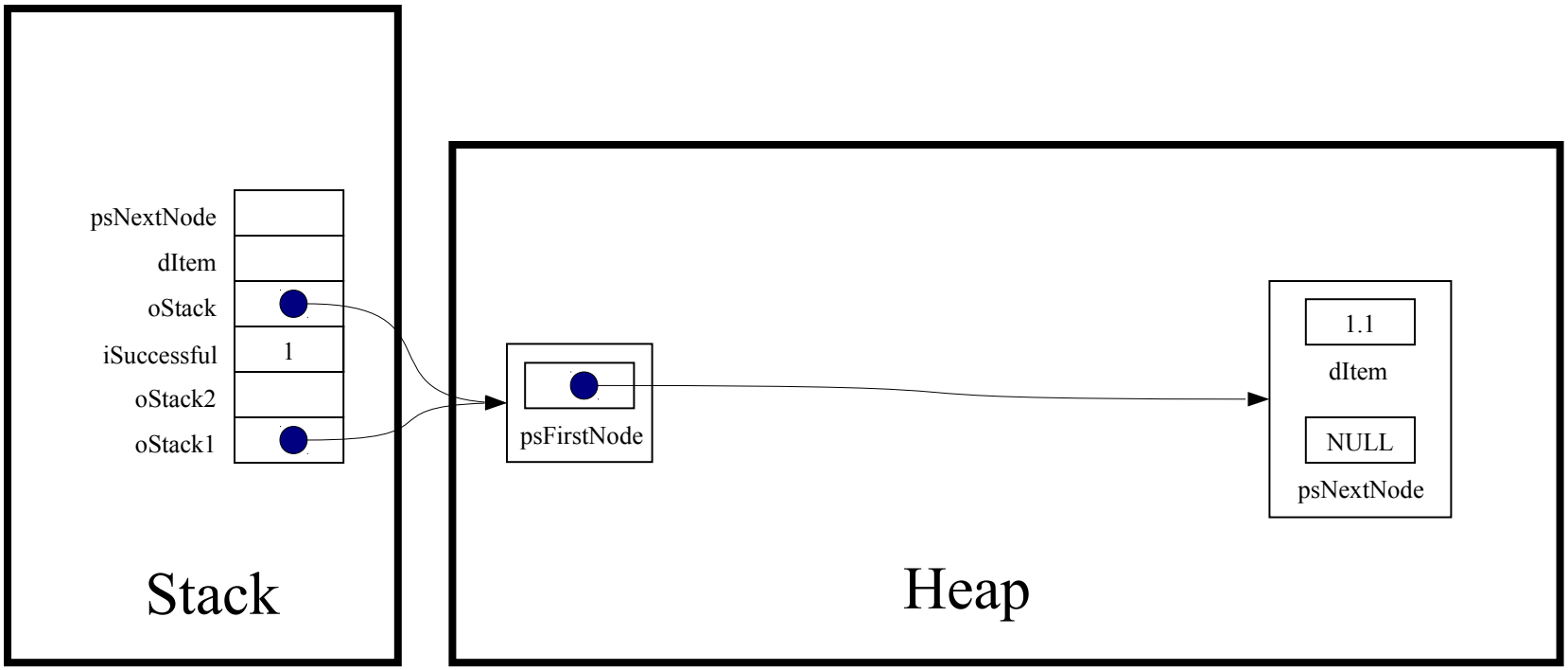
```
assert(oStack->psFirstNode != NULL);
```



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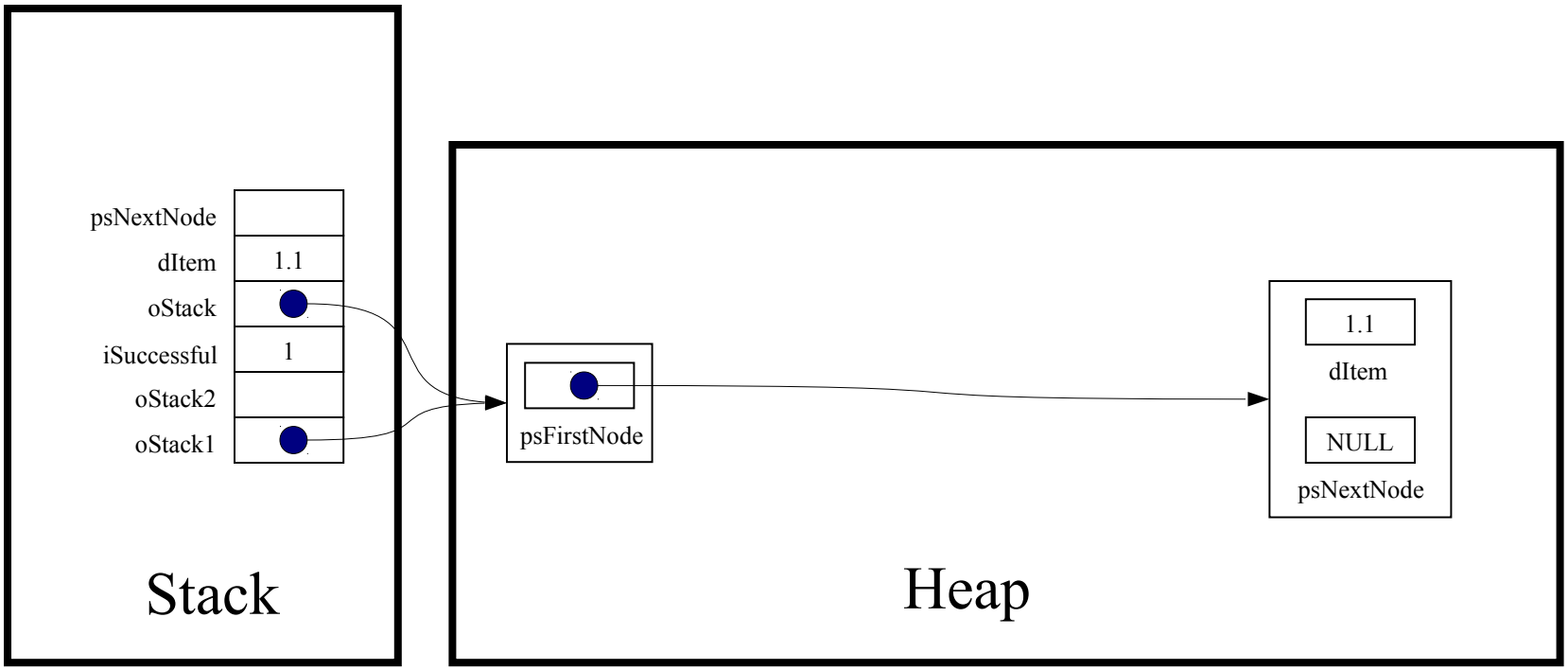
Trace of teststack (Version 4)

```
dItem = oStack->psFirstNode->dItem;
```



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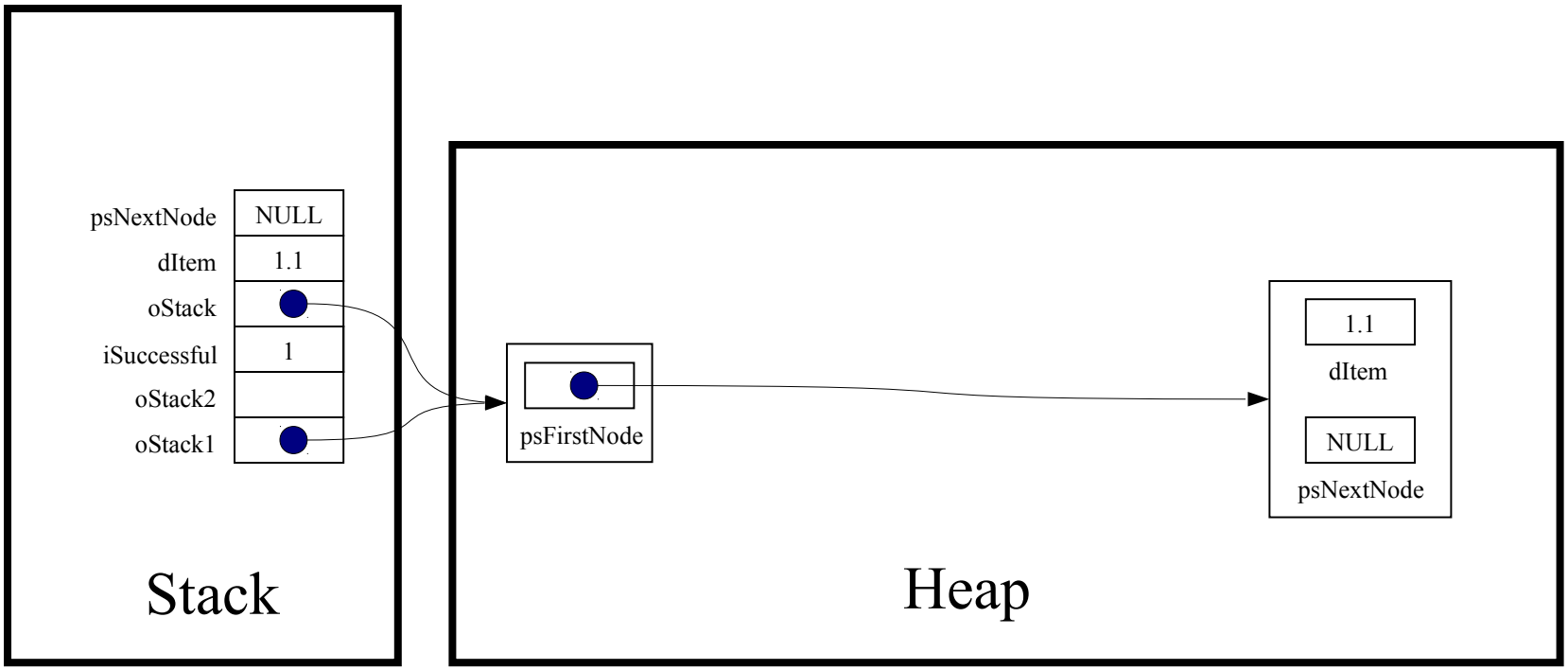
```
psNextNode = oStack->psFirstNode->psNextNode;
```



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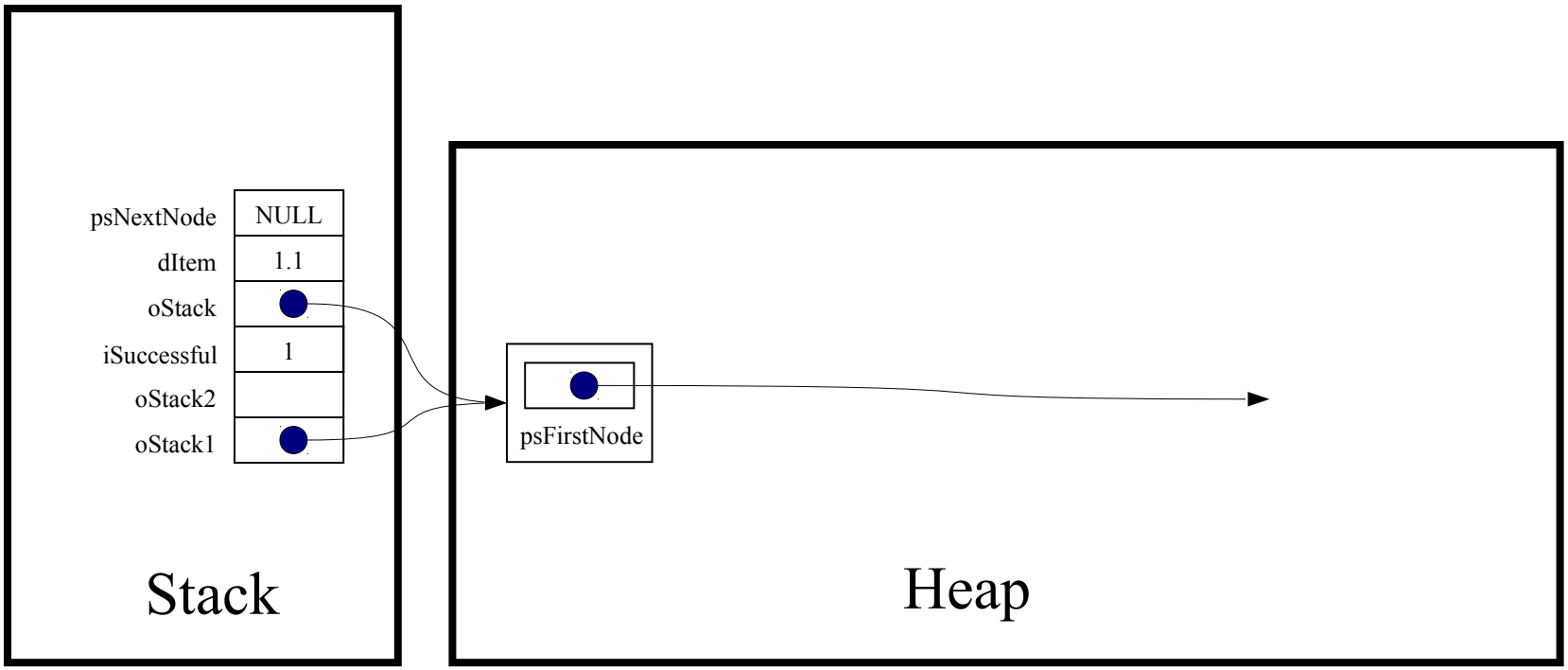
```
free(oStack->psFirstNode);
```



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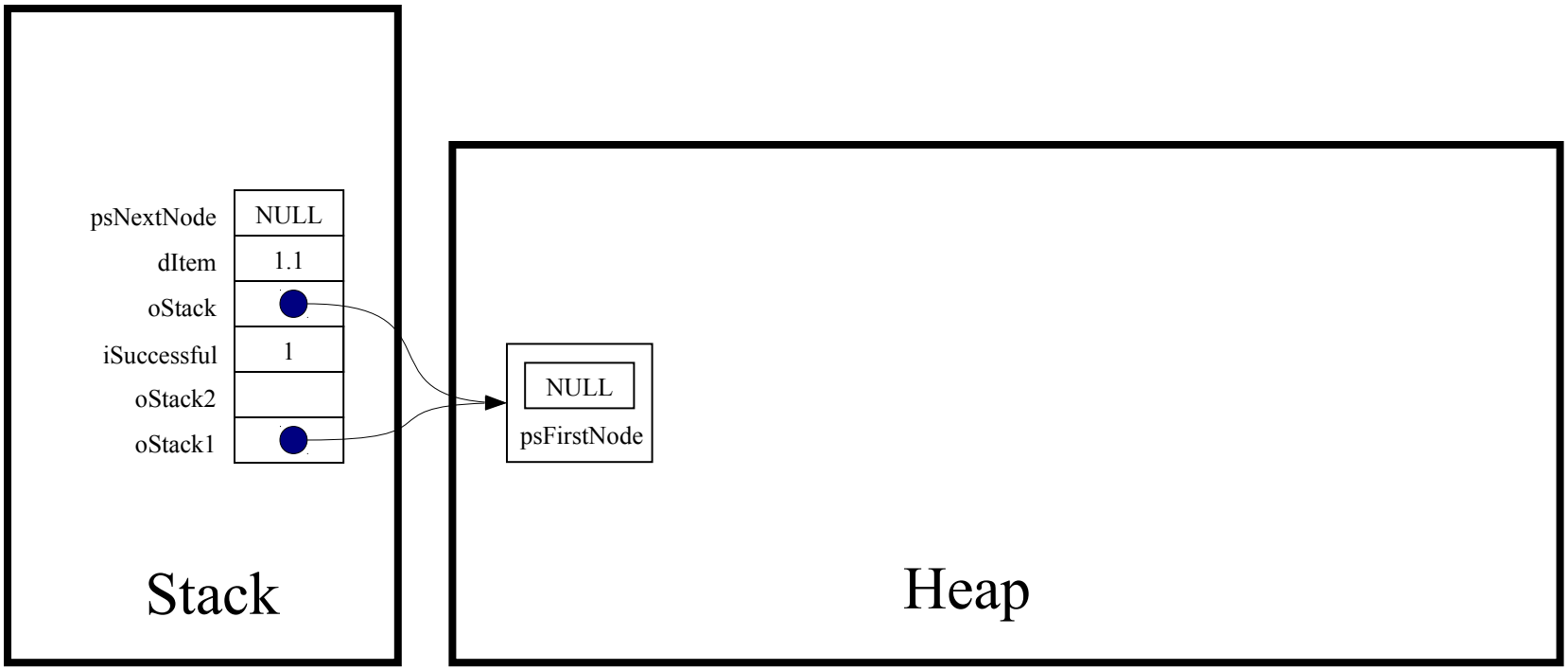
Trace of teststack (Version 4)

```
oStack->psFirstNode = psNextNode;
```



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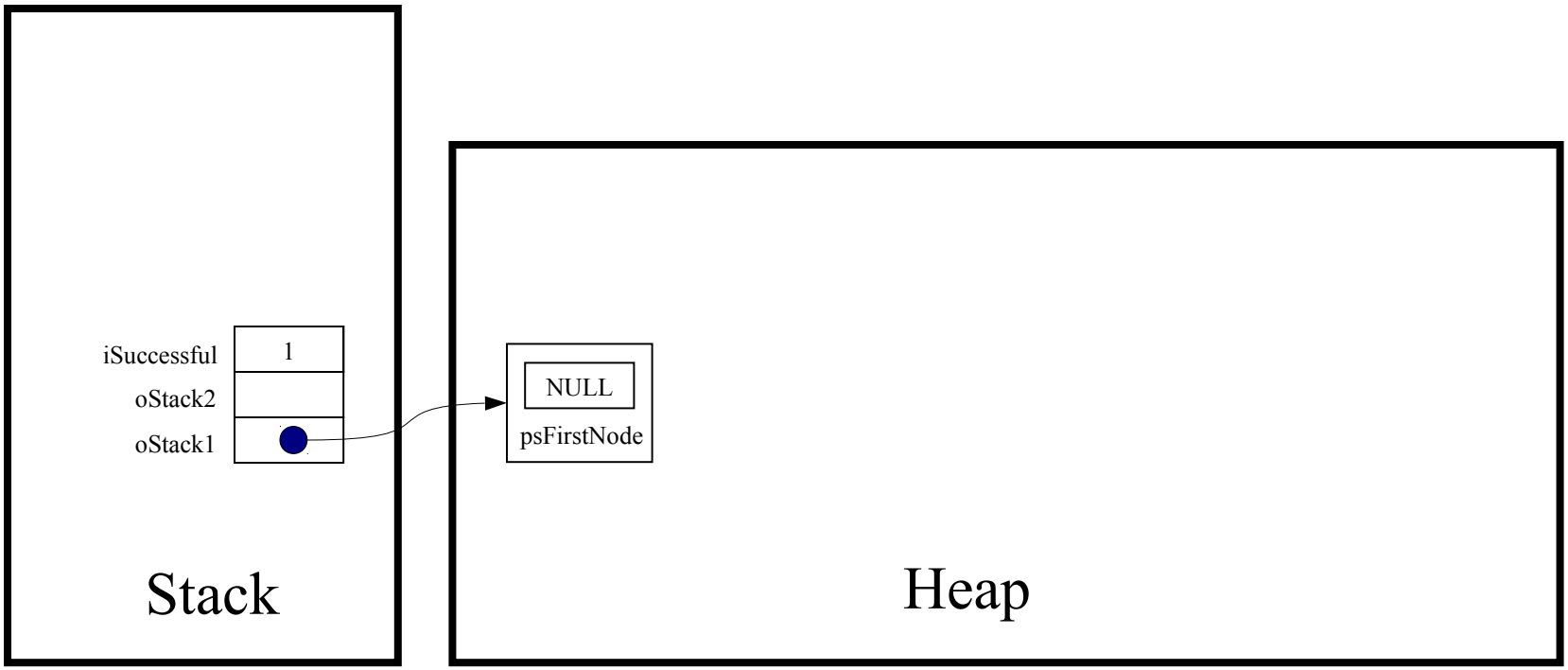
```
return dItem;
```



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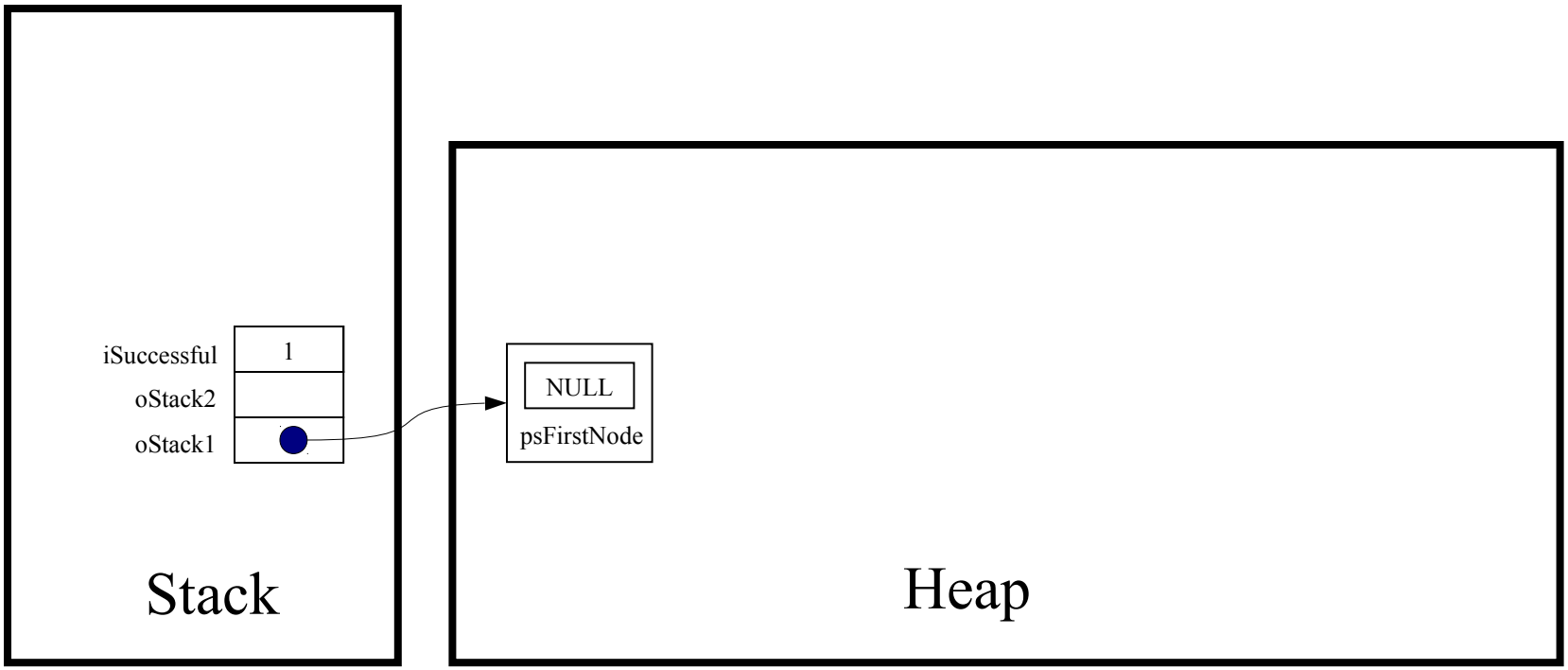
```
printf("%g\n", Stack_pop(oStack1));
```



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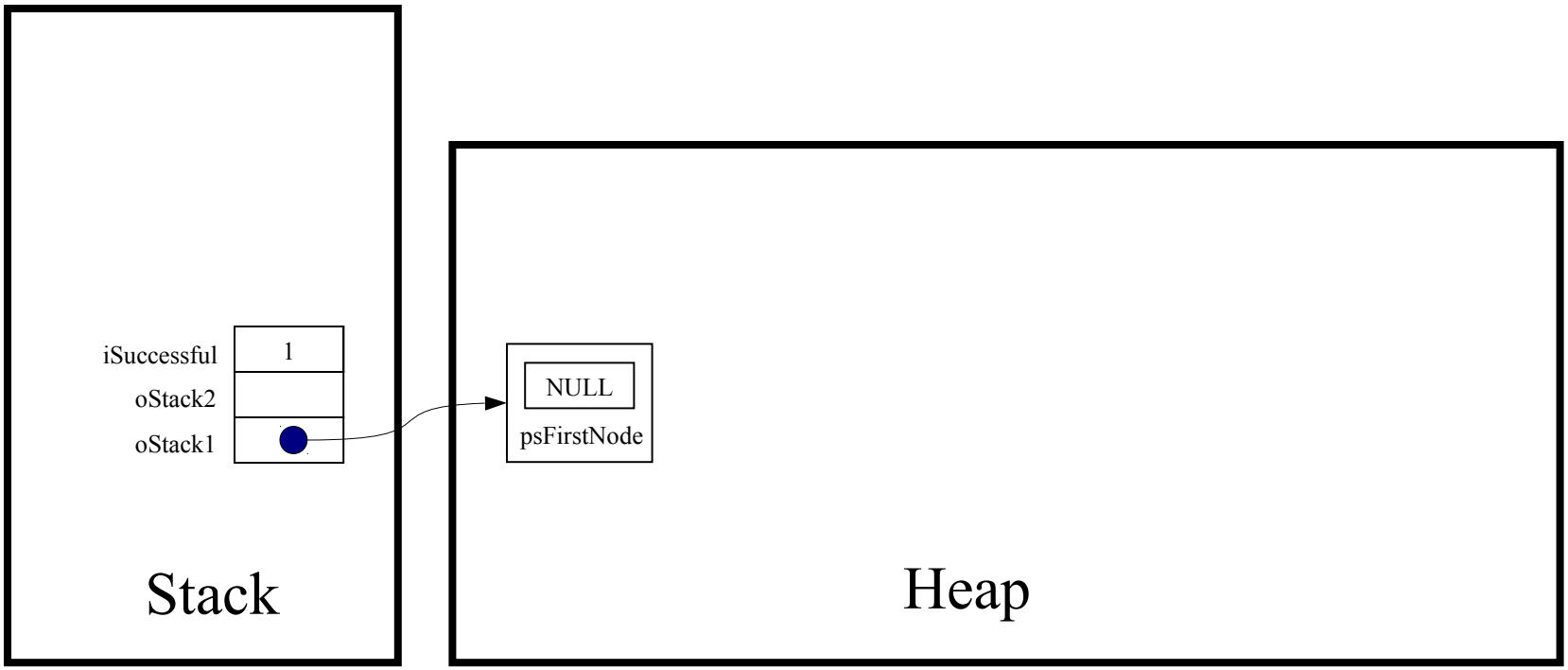
```
while (! Stack_isEmpty(oStack1))
   ...
```



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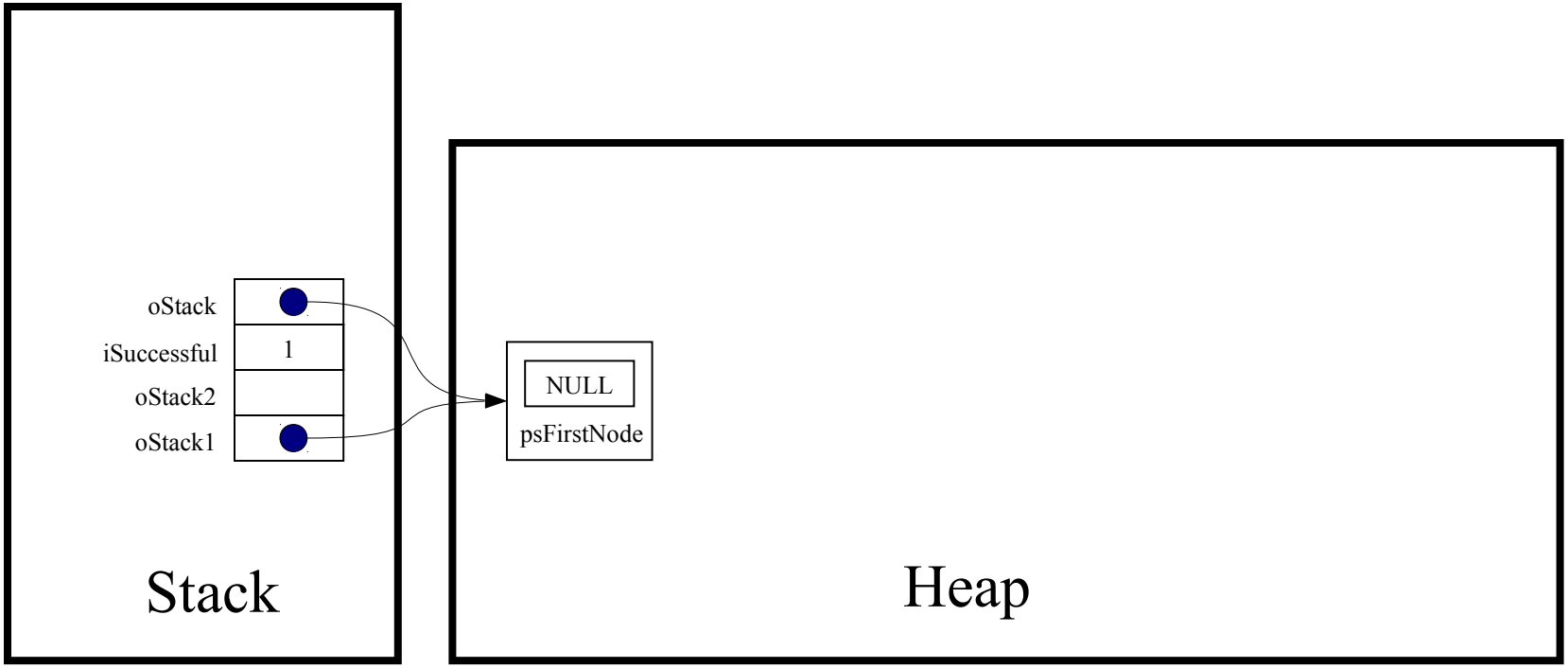
```
int Stack_isEmpty(Stack_T oStack)
```



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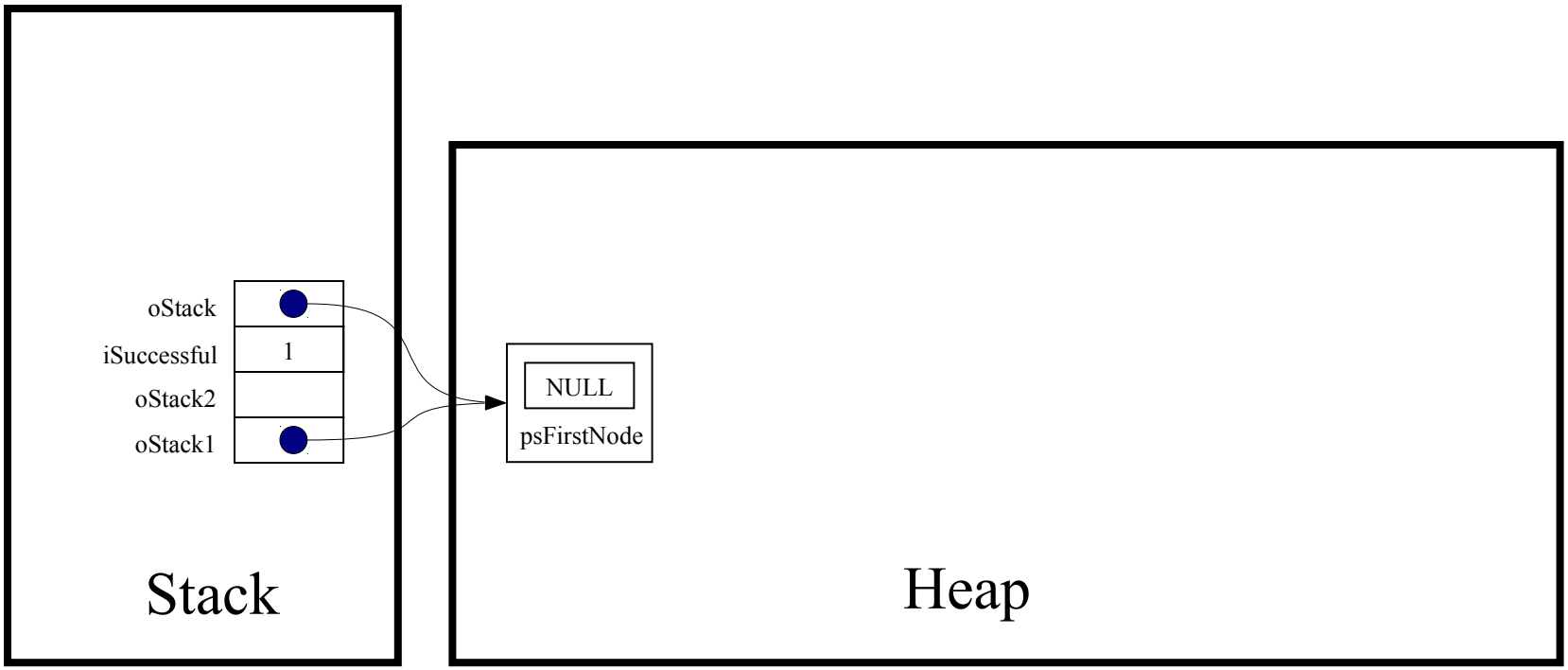
```
assert(oStack != NULL);
```



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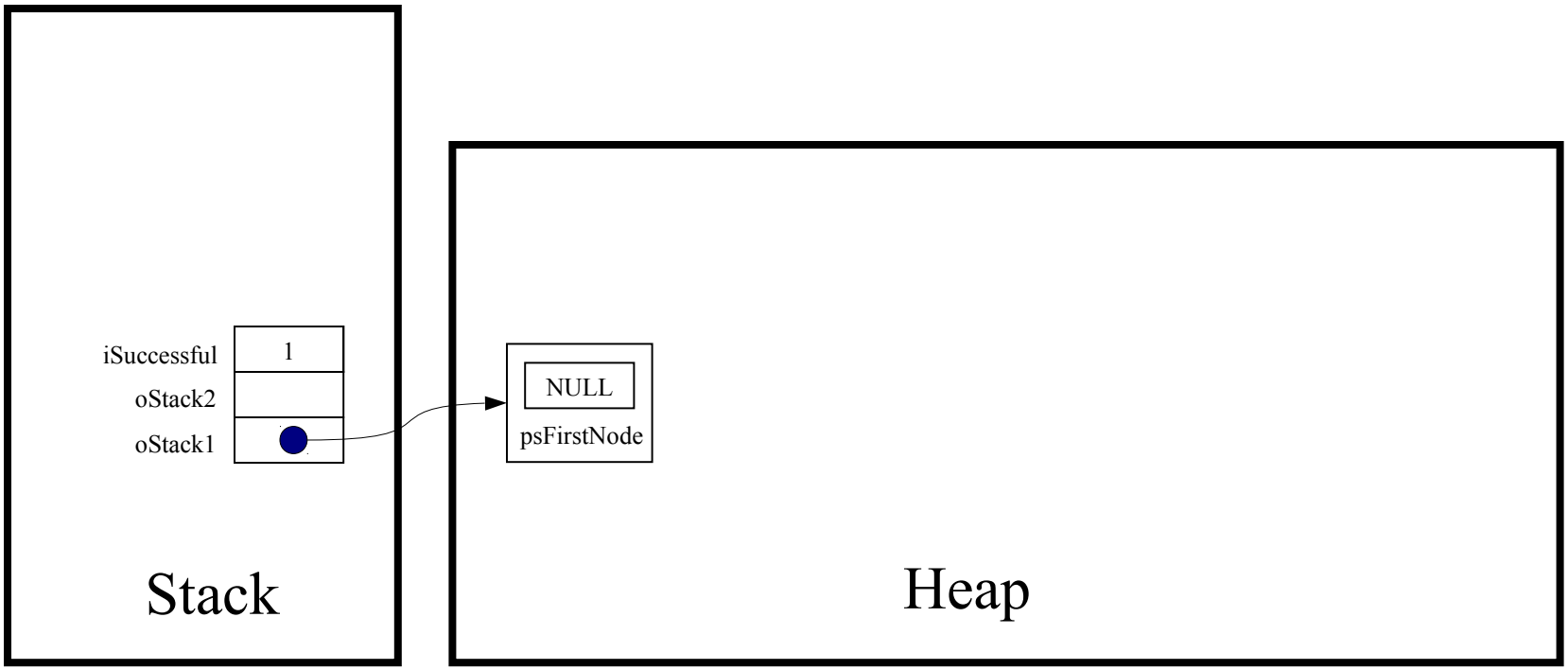
```
return oStack->psFirstNode == NULL;
```



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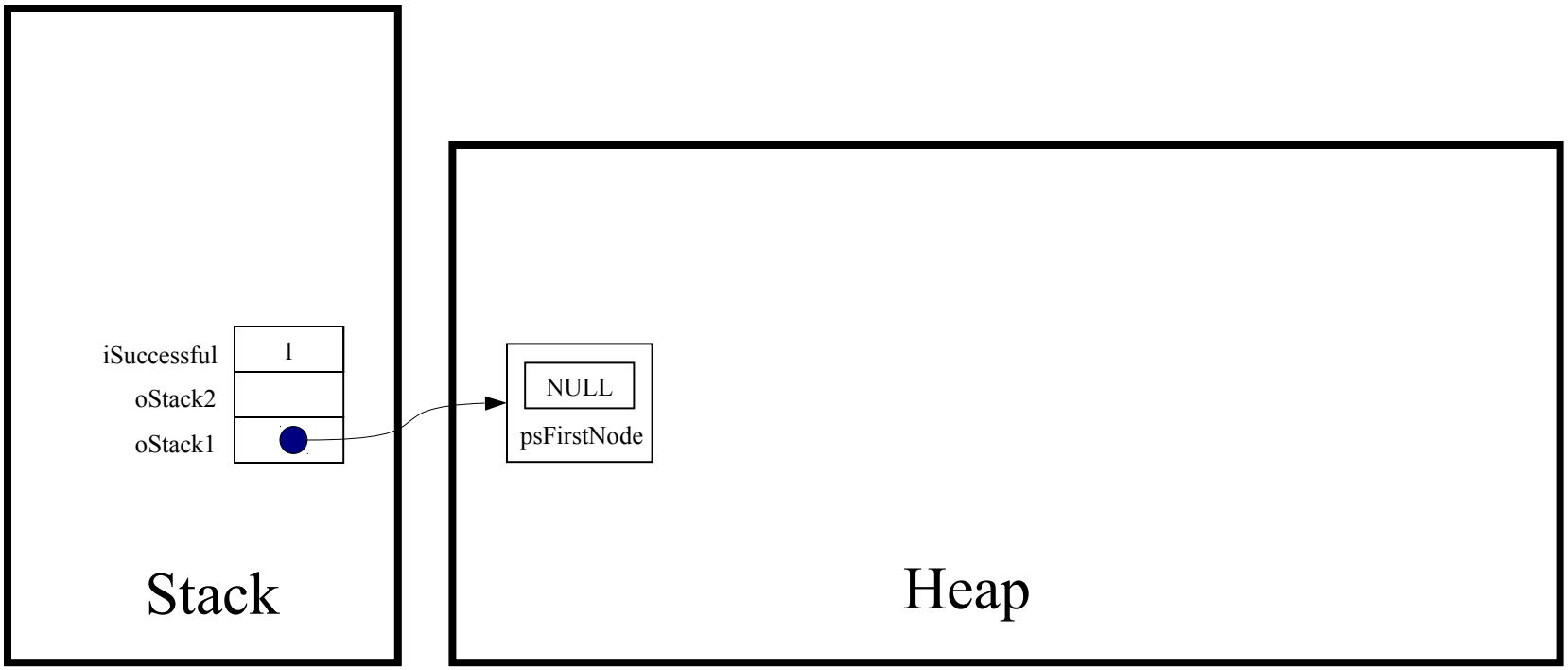
```
while (! Stack_isEmpty(oStack1))
   ...
```



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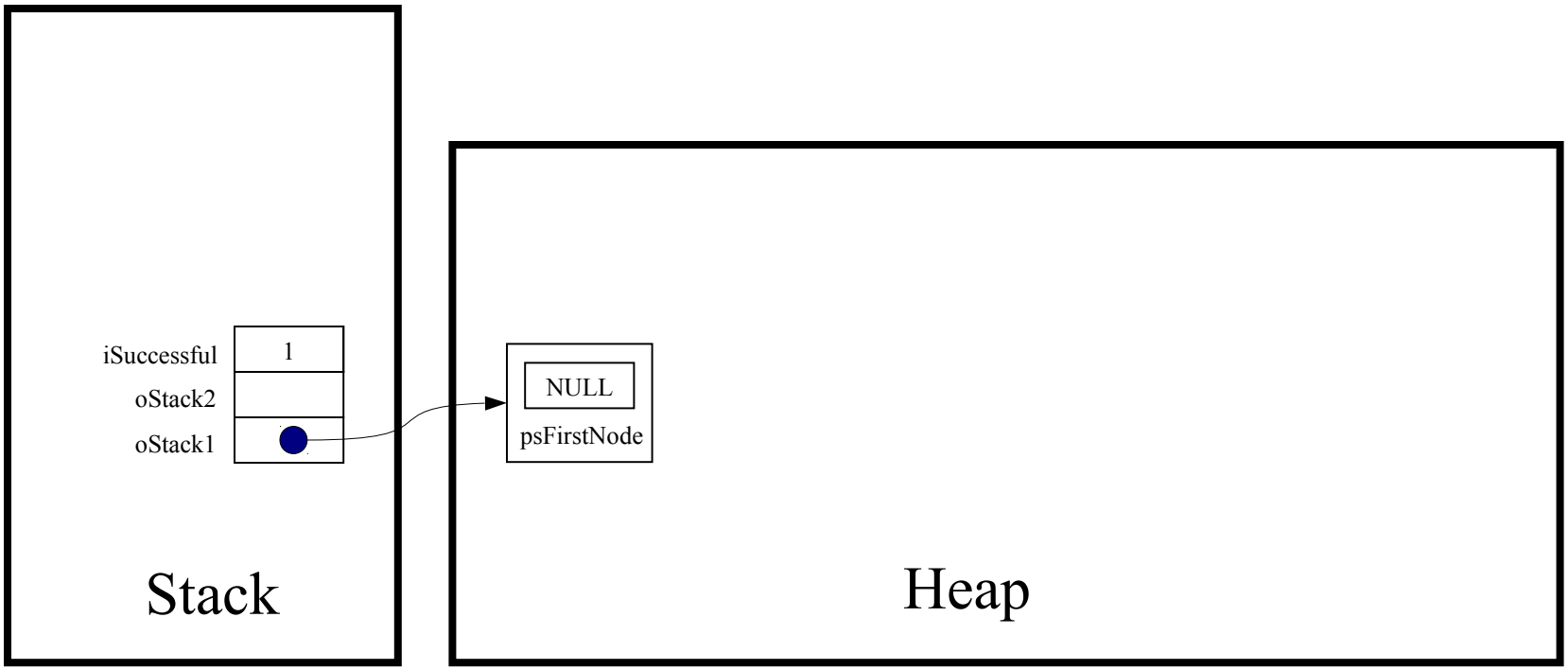
```
Stack_free(oStack1);
```



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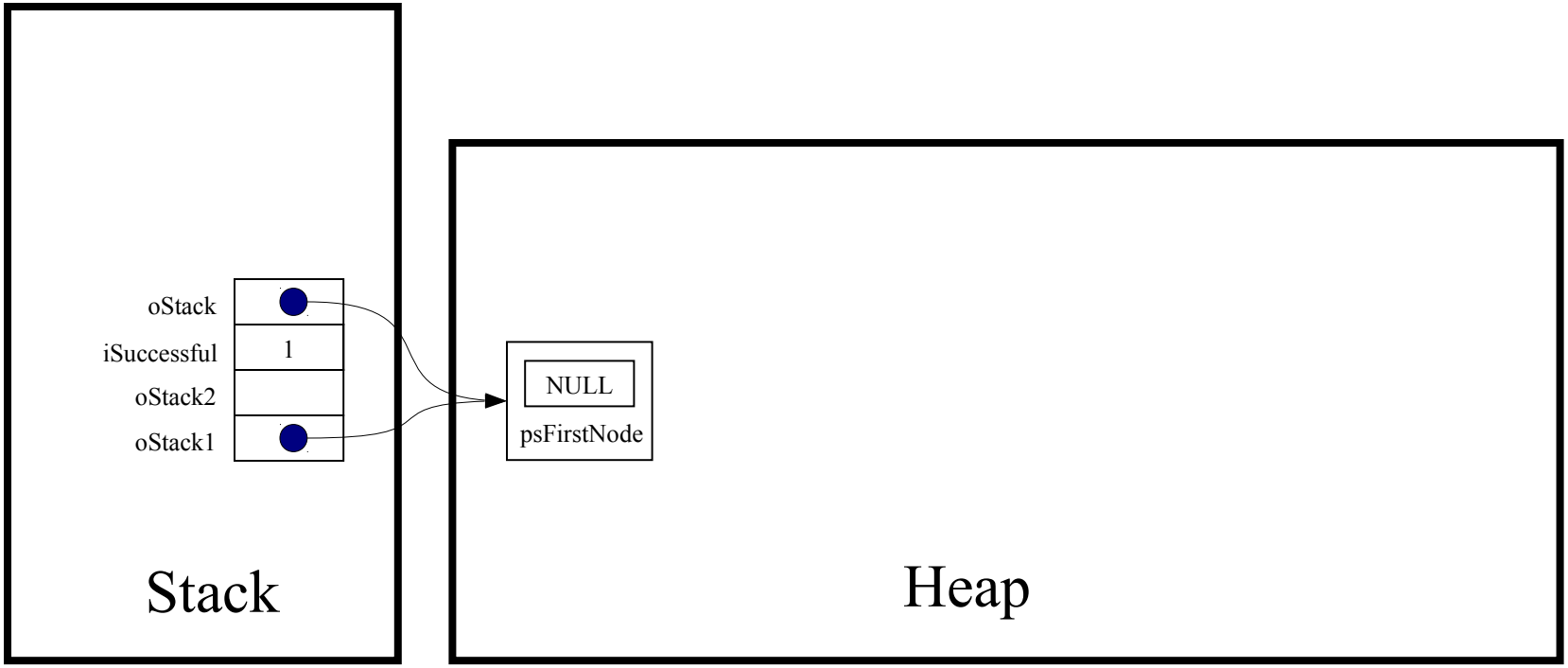
```
void Stack_free(Stack_T oStack)
```



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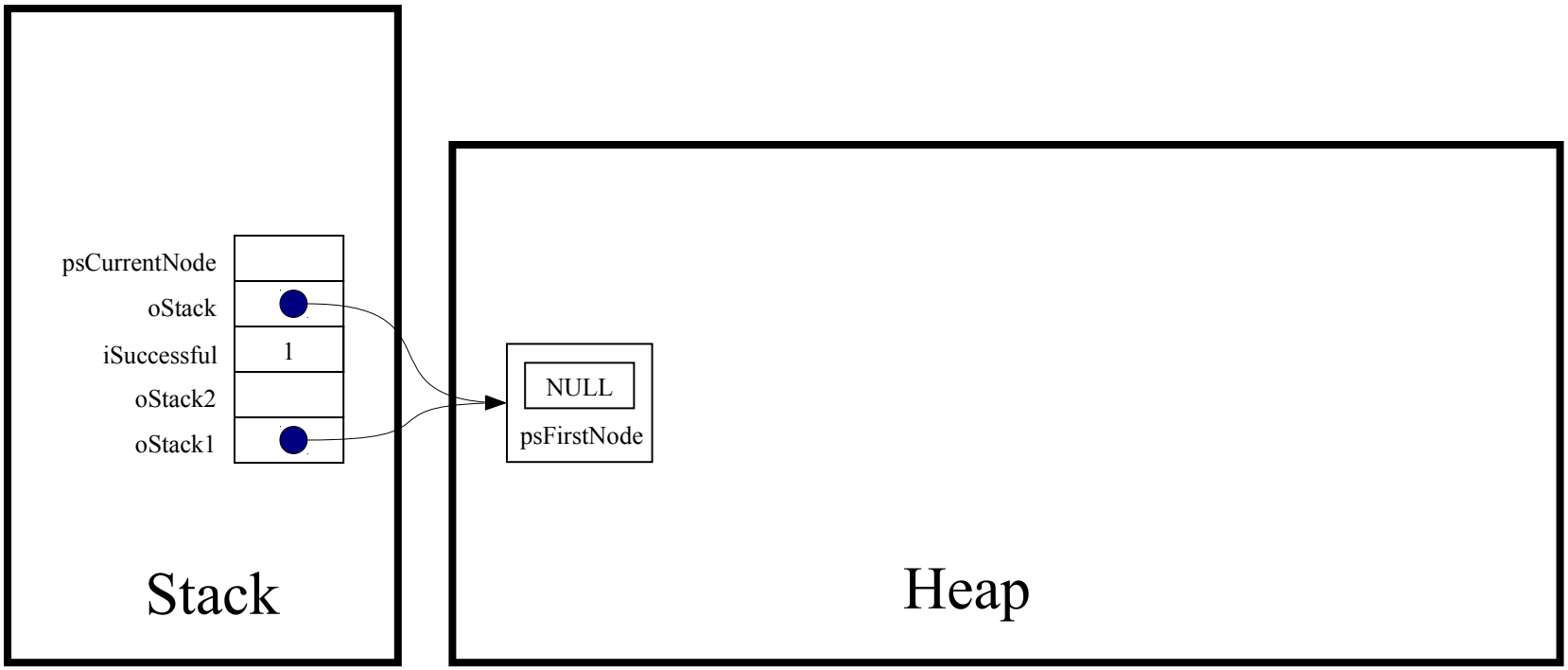
```
struct StackNode *psCurrentNode;
```



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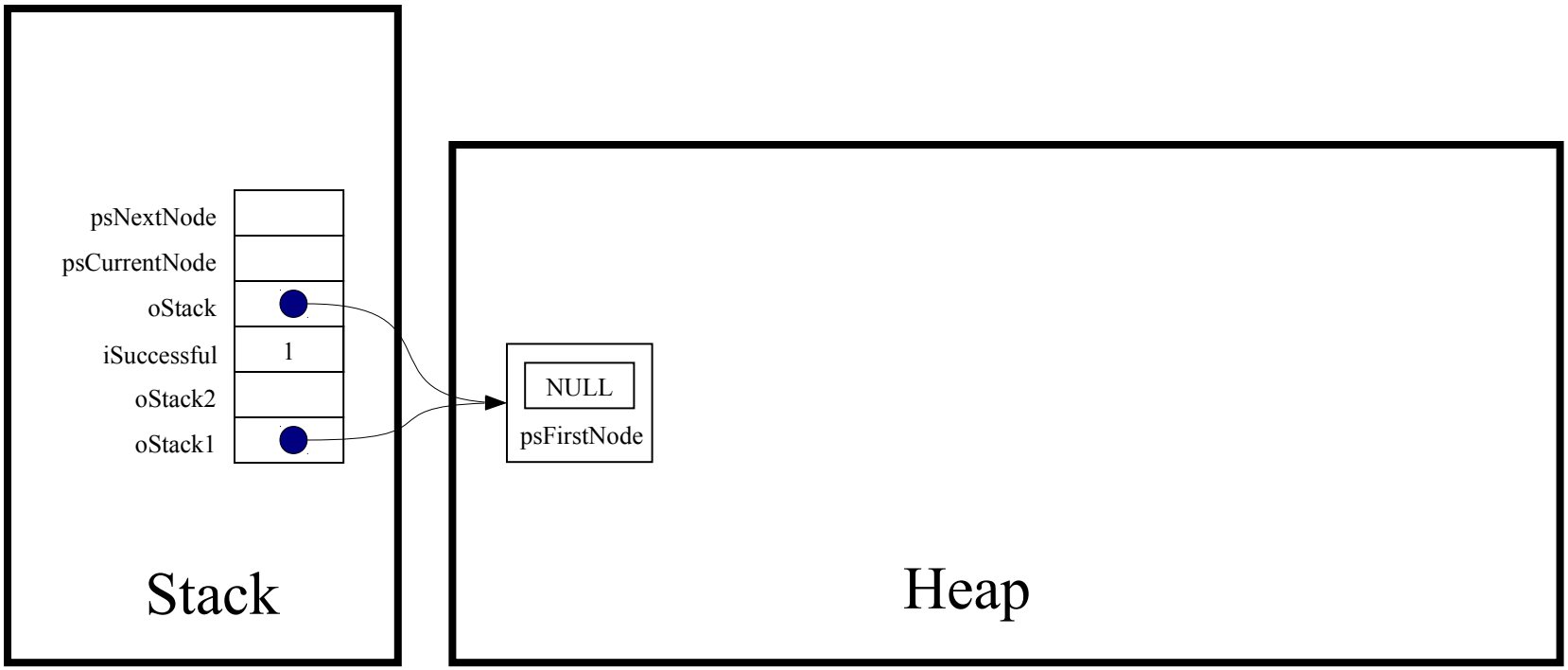
```
struct StackNode *psNextNode;
```



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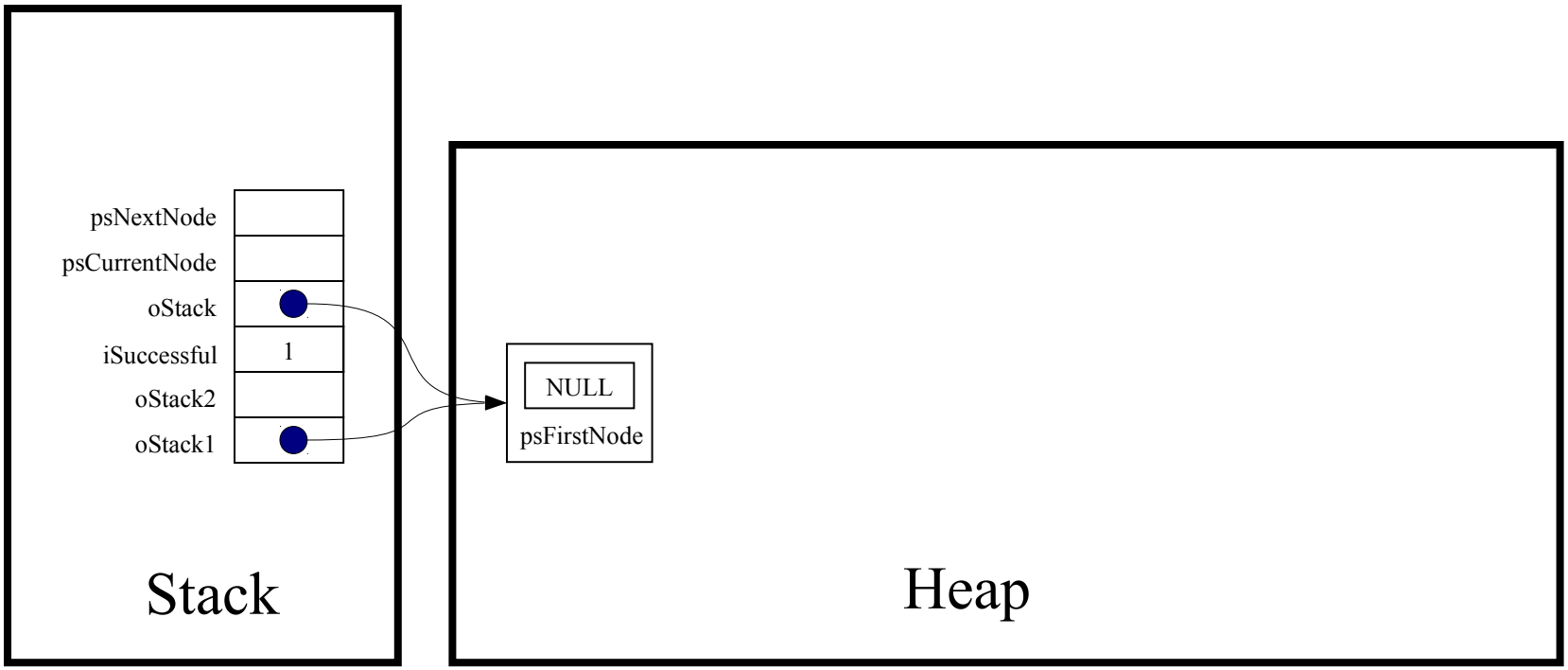
```
assert(oStack != NULL);
```



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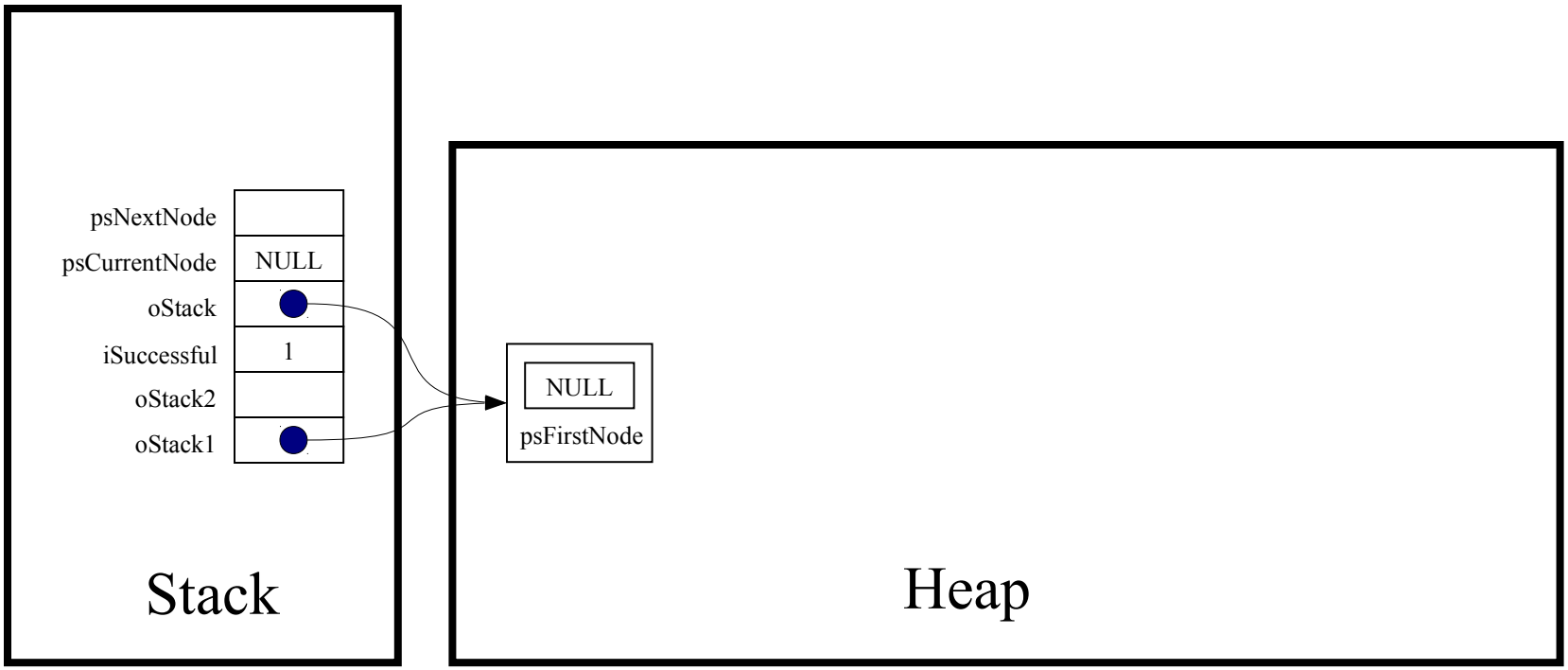
Trace of teststack (Version 4)

```
for (psCurrentNode = oStack->psFirstNode;
     psCurrentNode != NULL;
     psCurrentNode = psNextNode)
   ...
```



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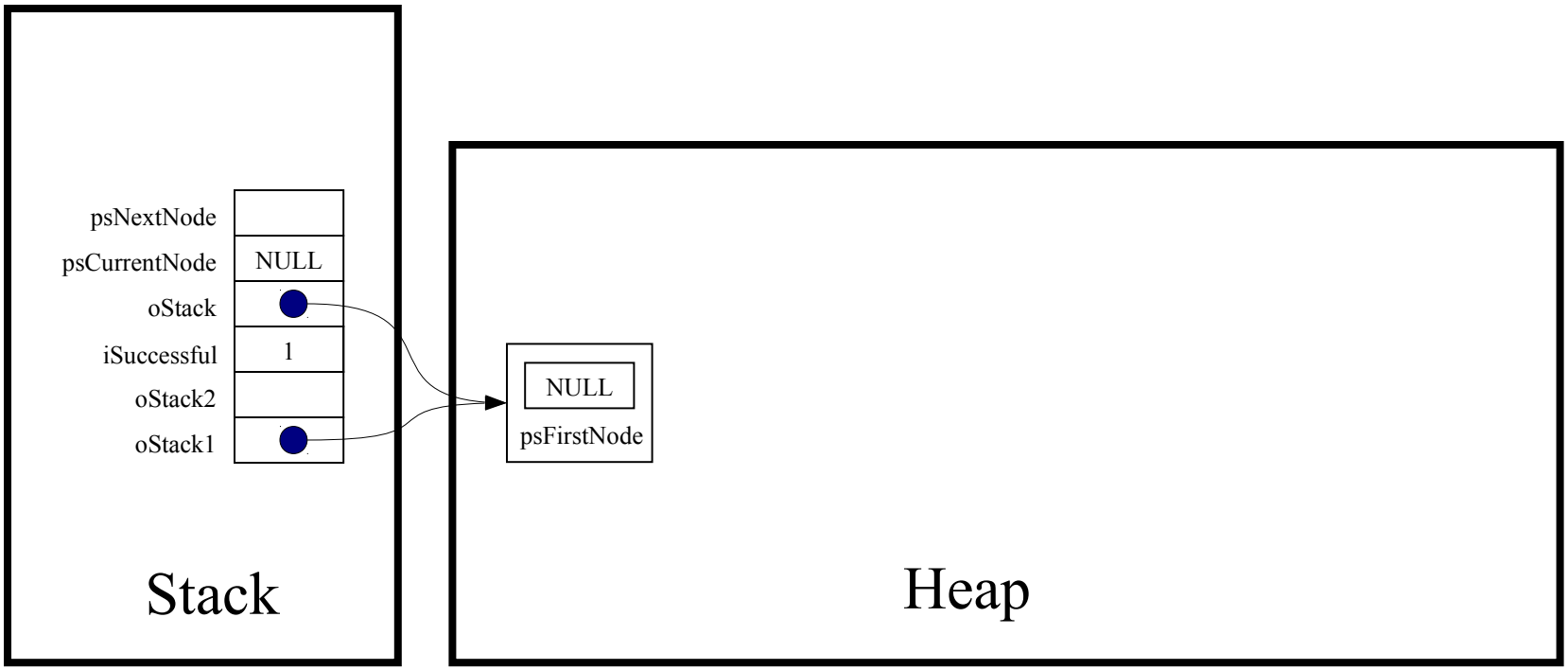
Trace of teststack (Version 4)

```
for (psCurrentNode = oStack->psFirstNode;
     psCurrentNode != NULL;
     psCurrentNode = psNextNode)
   ...
```



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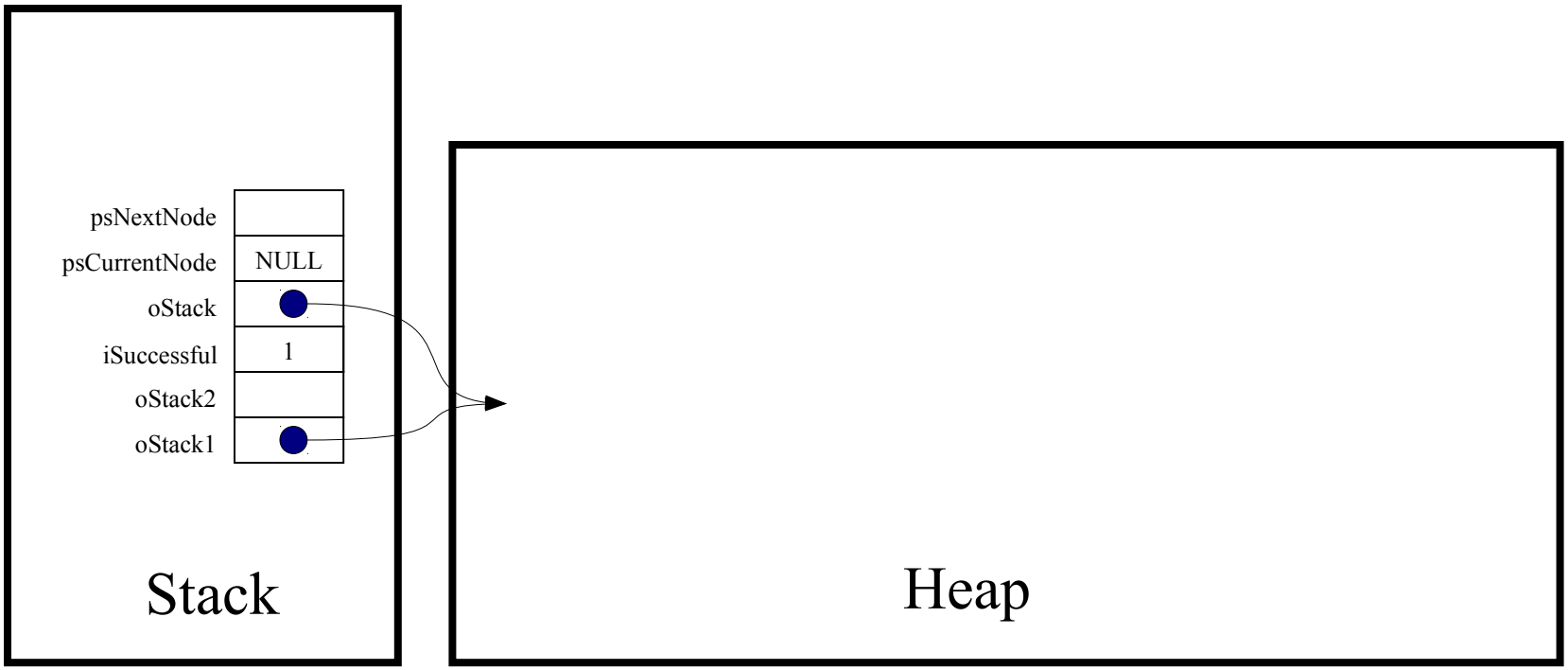
```
free(oStack);
```



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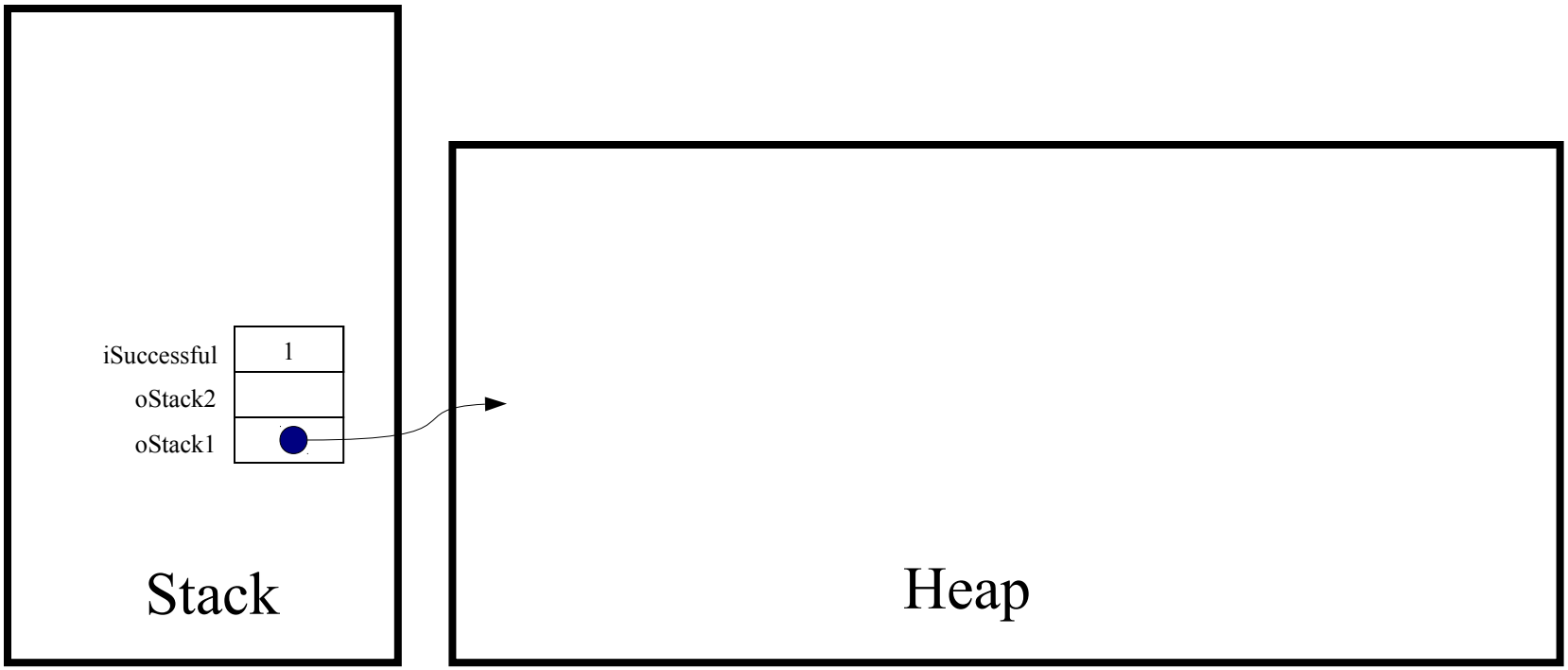
```
Implicit return
```



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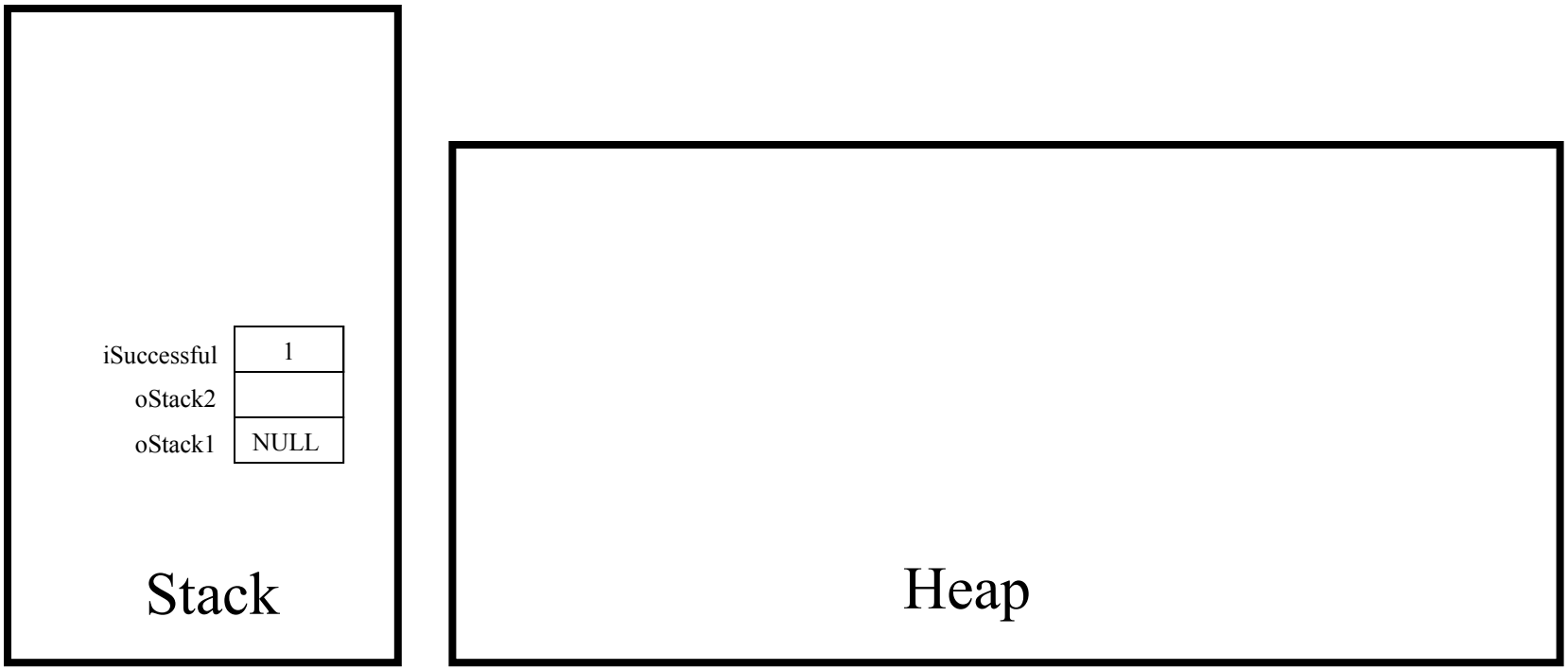
```
oStack1 = NULL;
```



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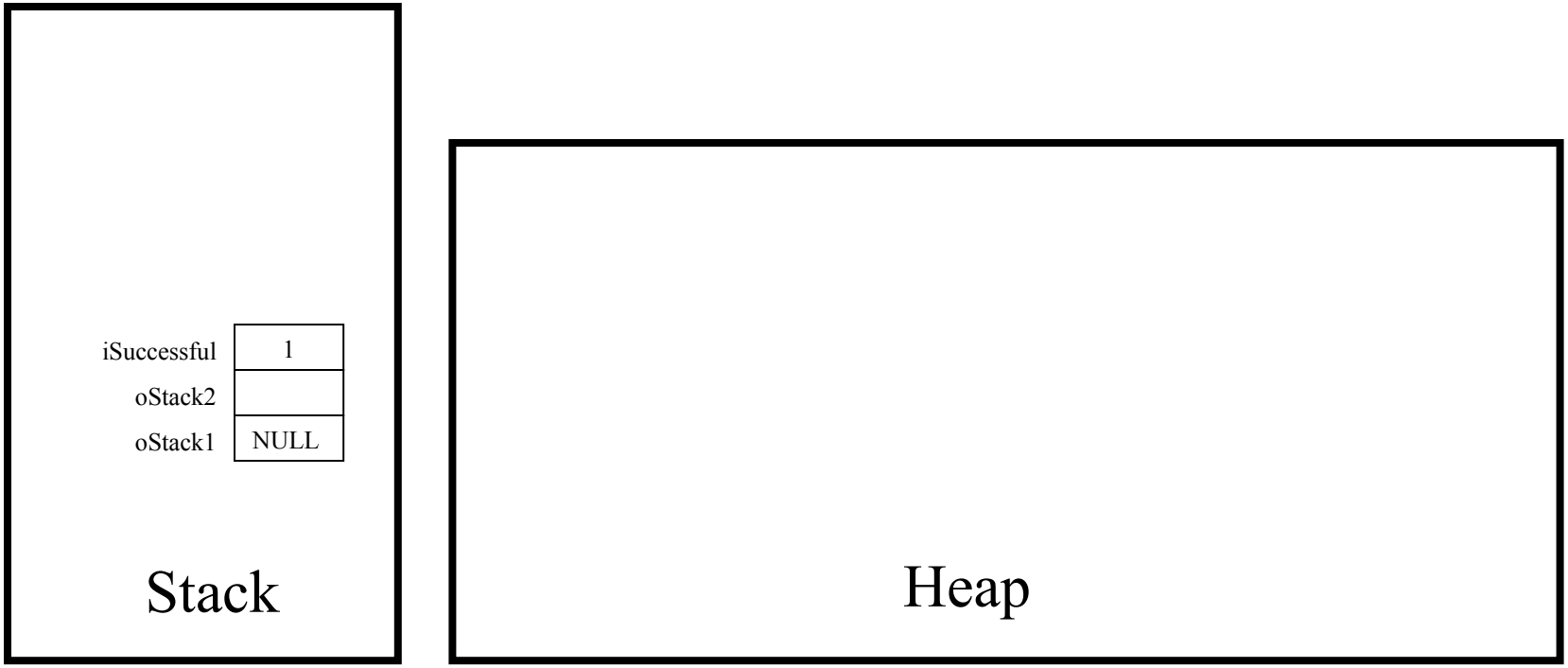
```
oStack2 = Stack_new();
```



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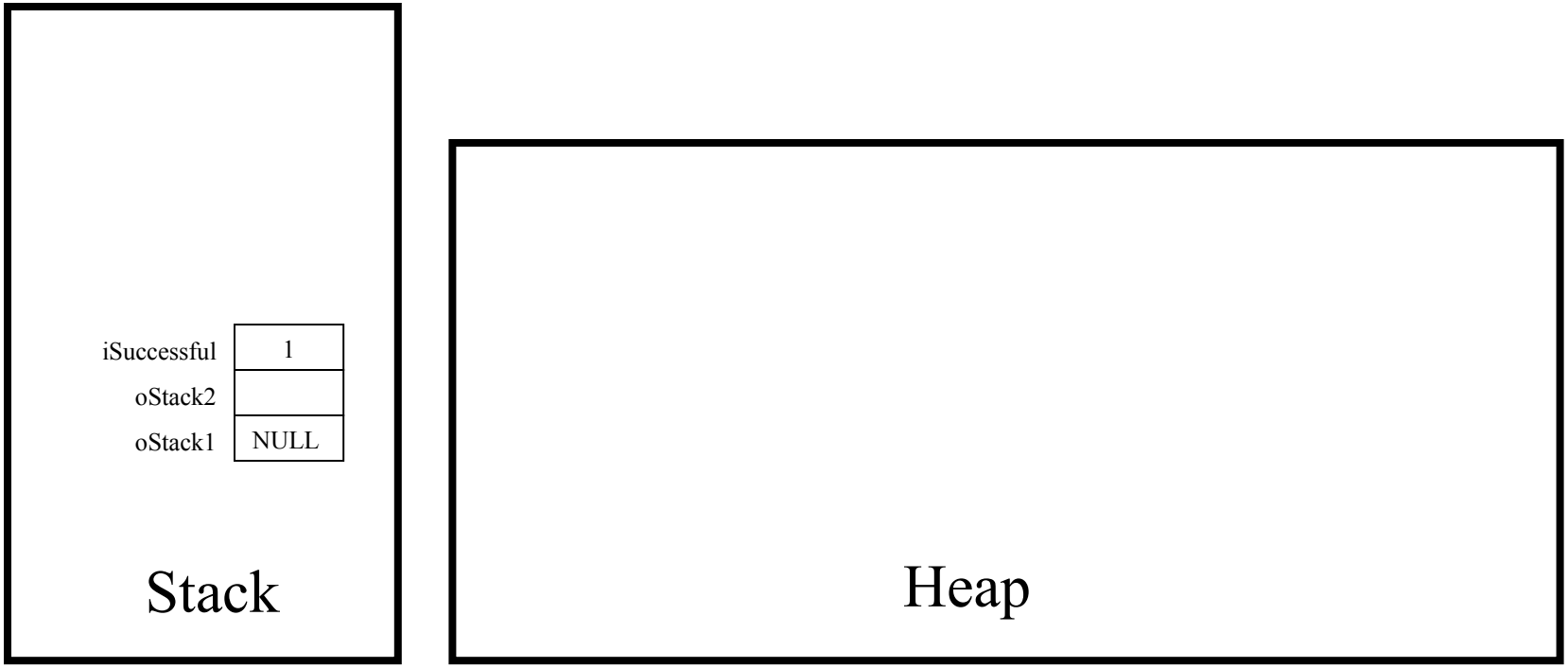
```
Stack_T Stack_new(void)
```



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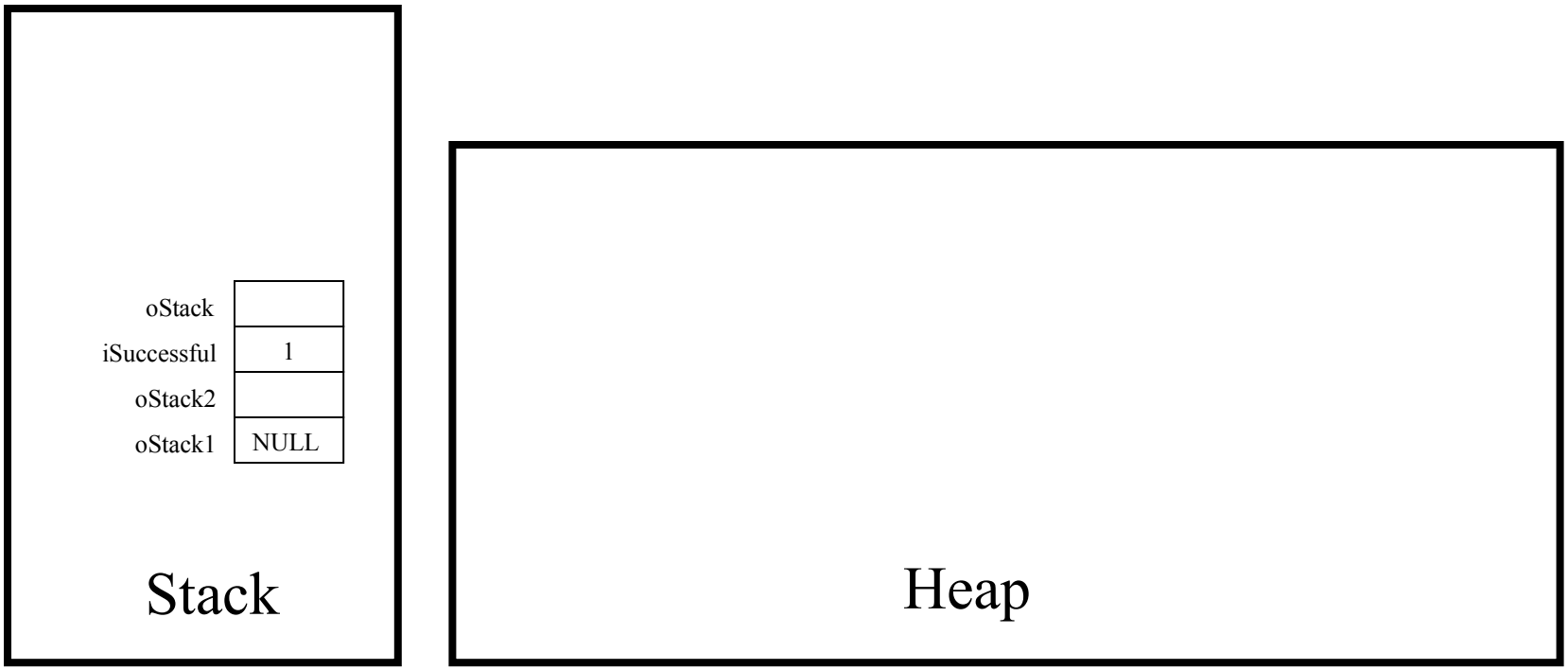
```
Stack_T oStack;
```



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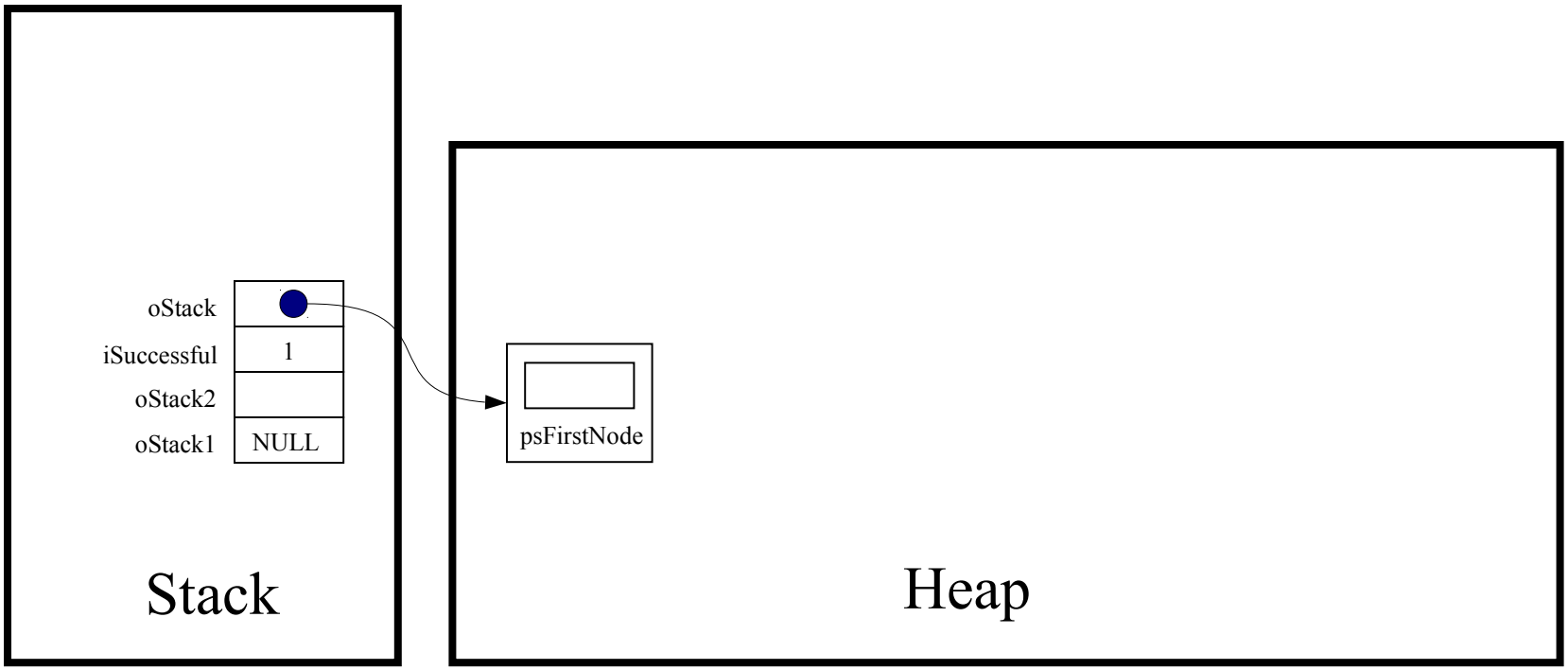
```
oStack = (Stack_T)malloc(sizeof(struct Stack);
```



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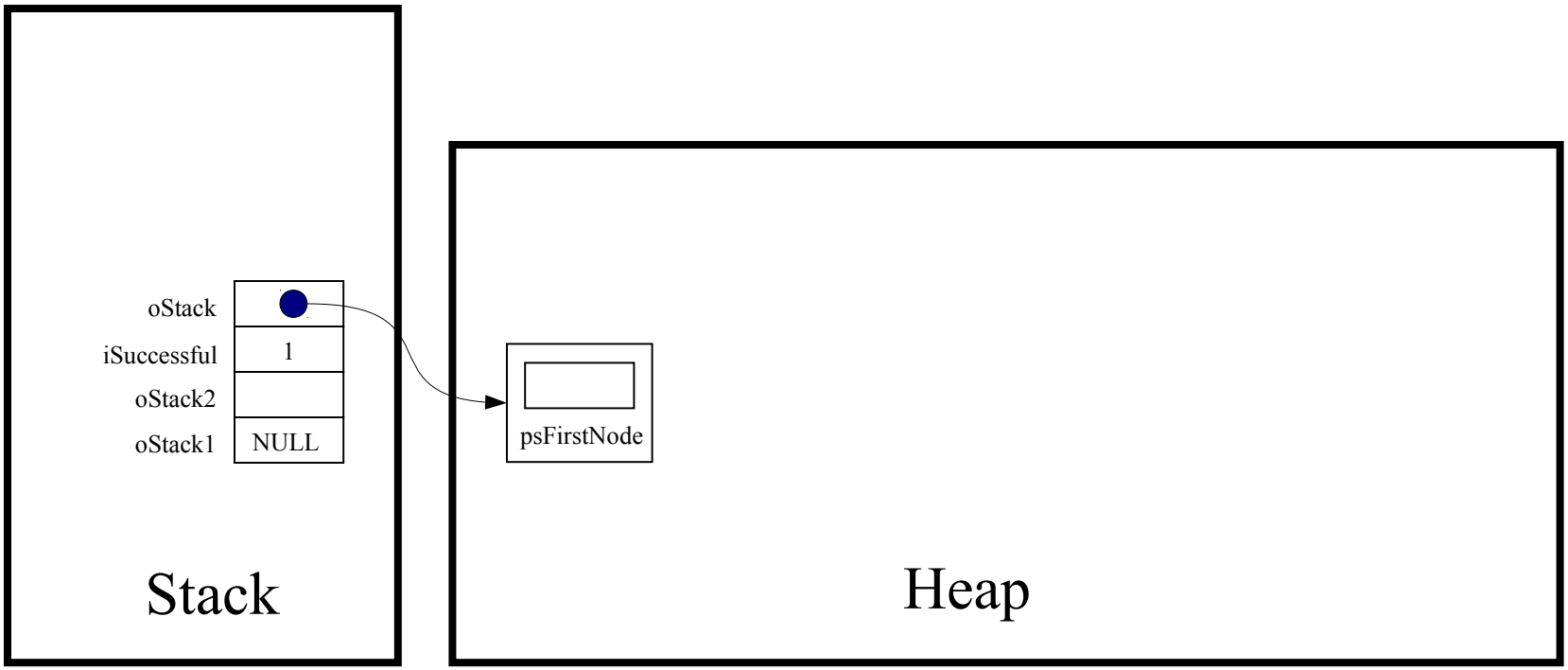
```
if (oStack == NULL)
   return NULL;'
```



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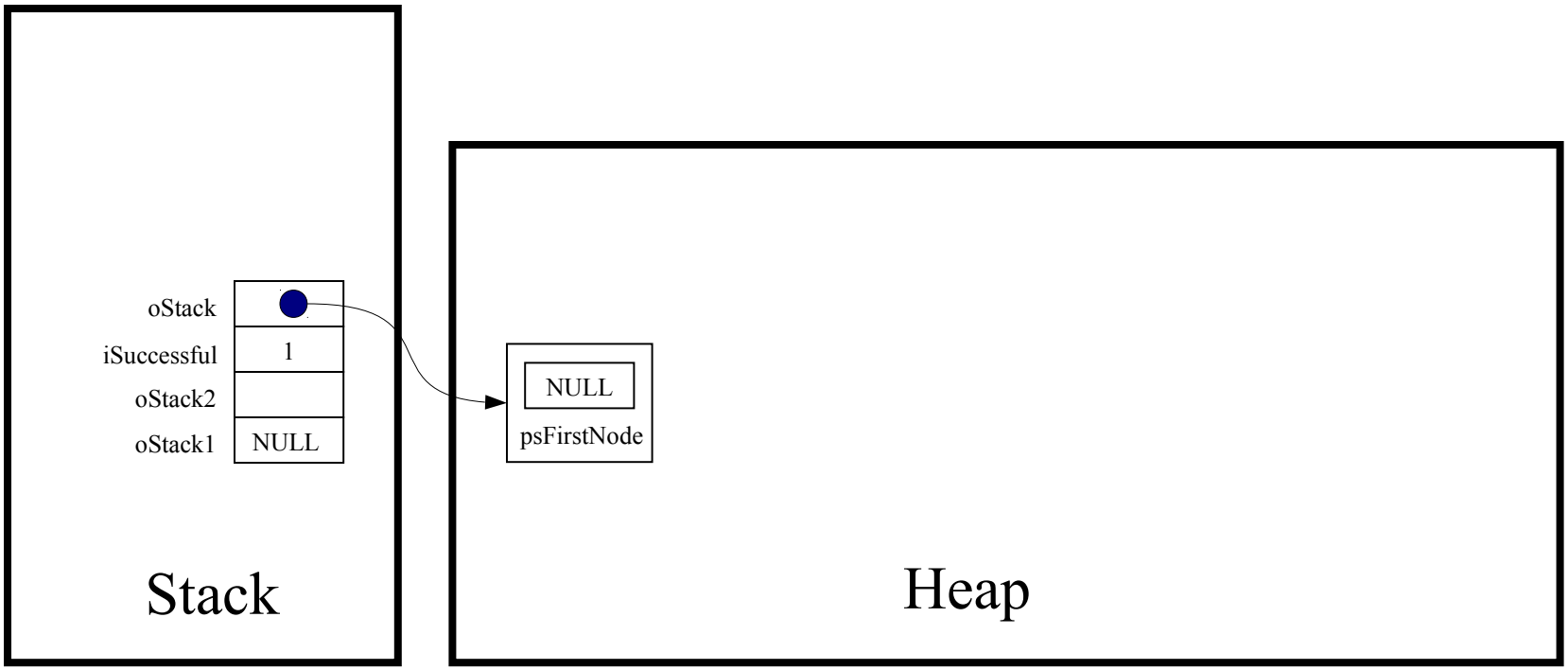
```
oStack->psFirstNode = NULL;
```



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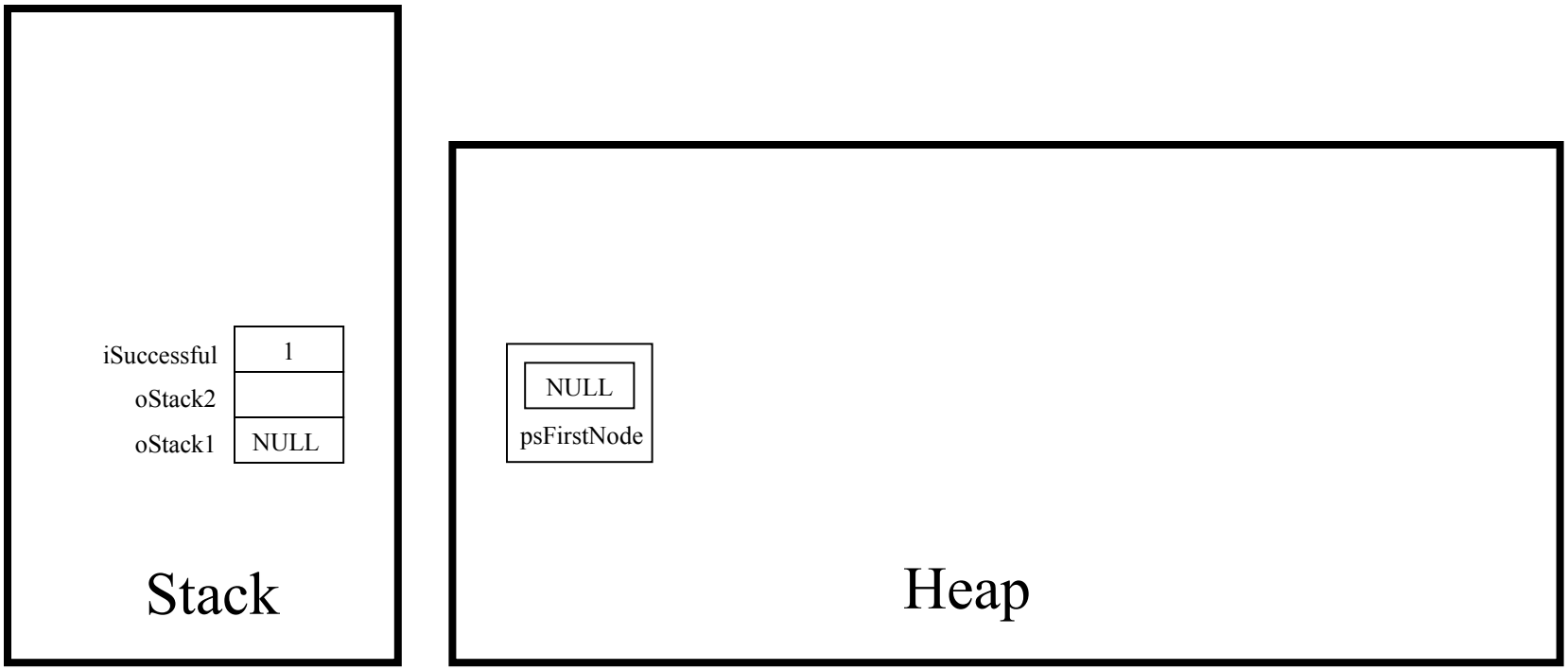
```
return oStack;
```



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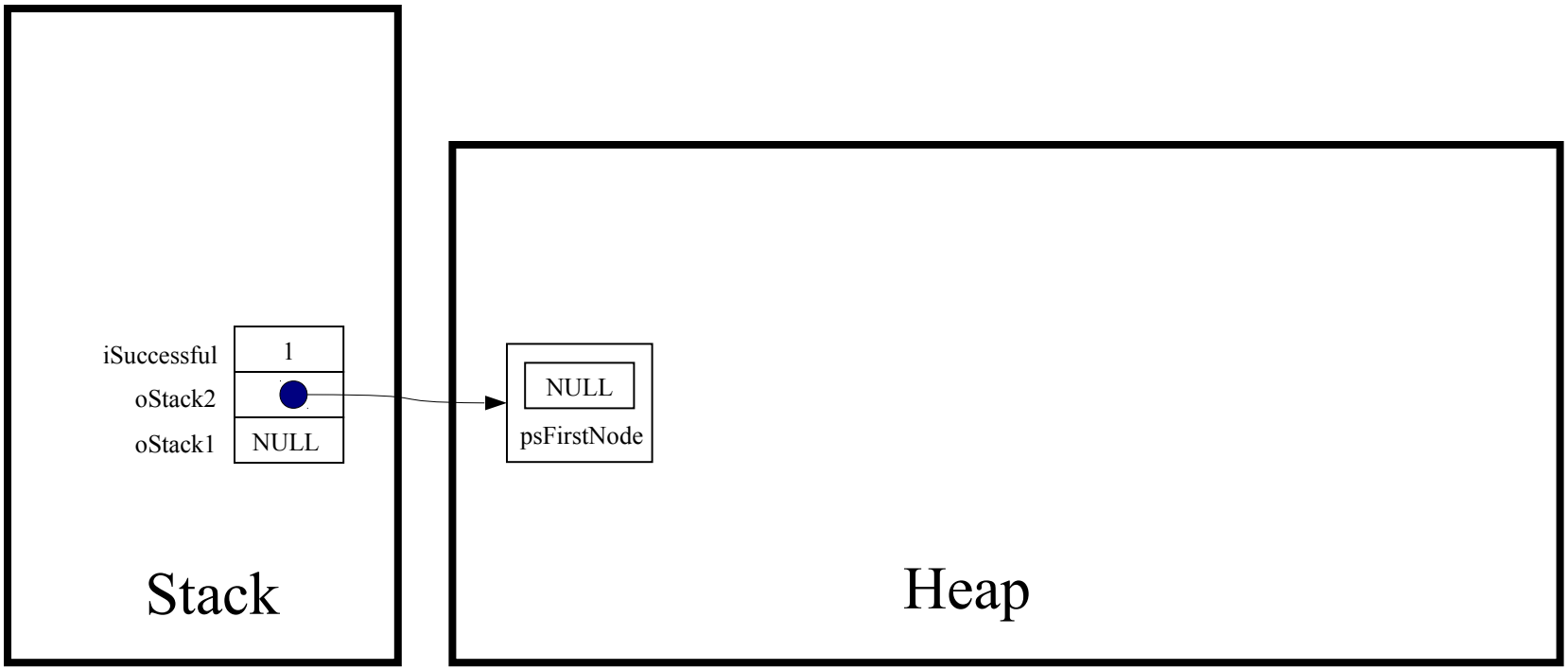
```
oStack2 = Stack(new);
```



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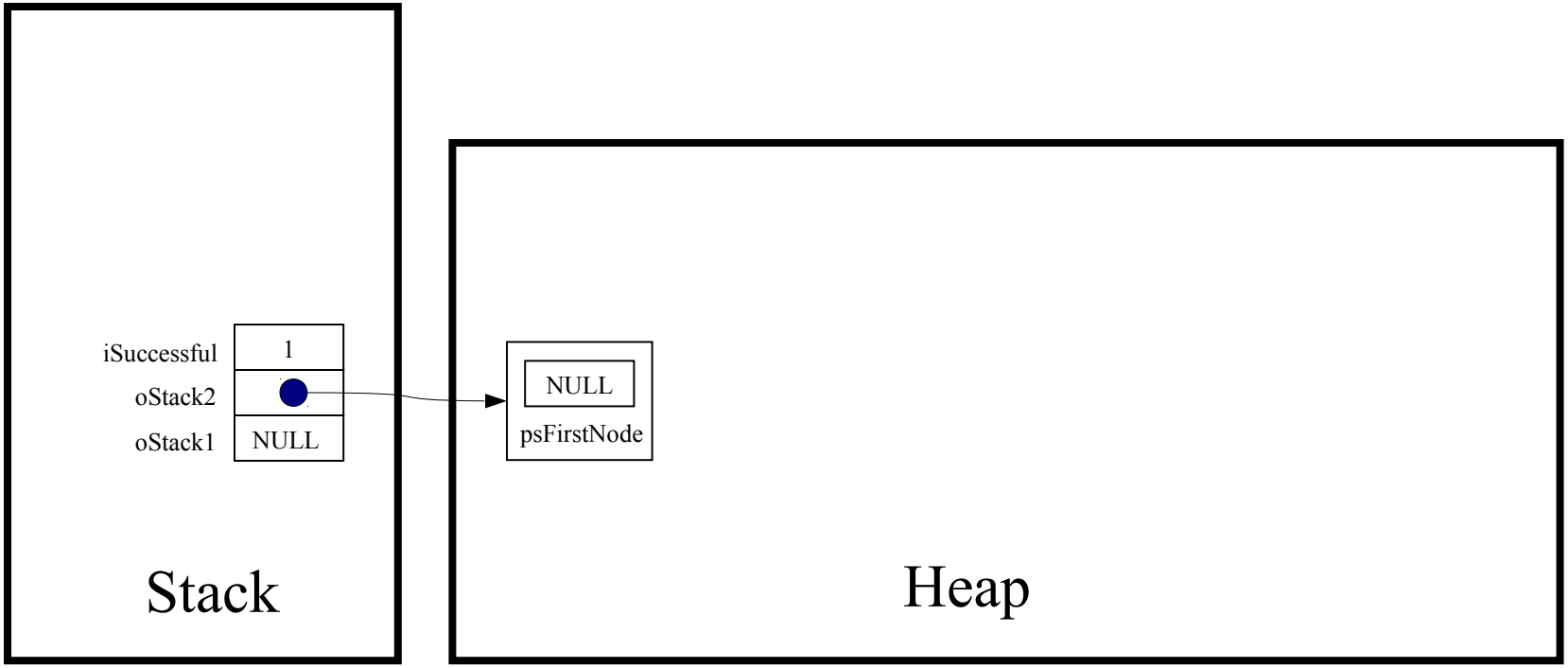
```
if (oStack2 == NULL) handleMemoryError();
```



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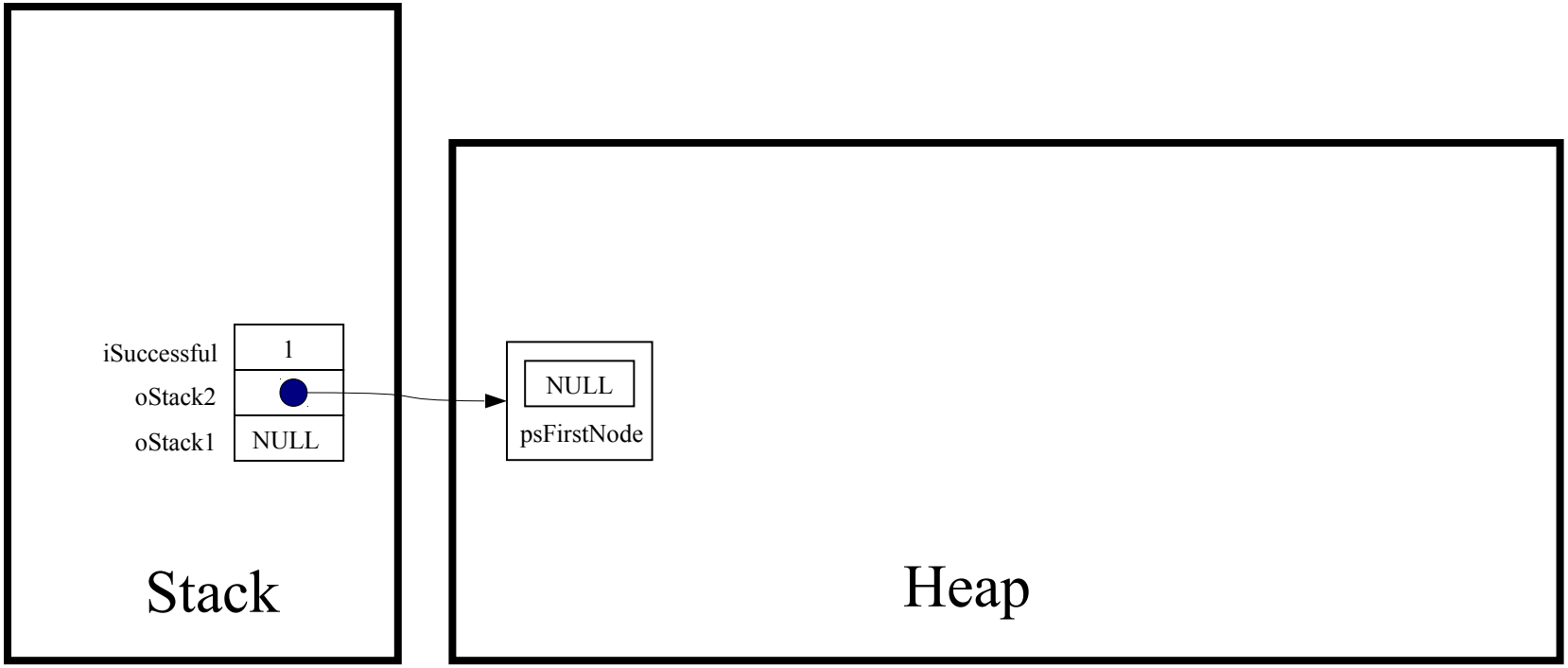
```
iSuccessful = Stack_push(oStack2, 4.4);
```



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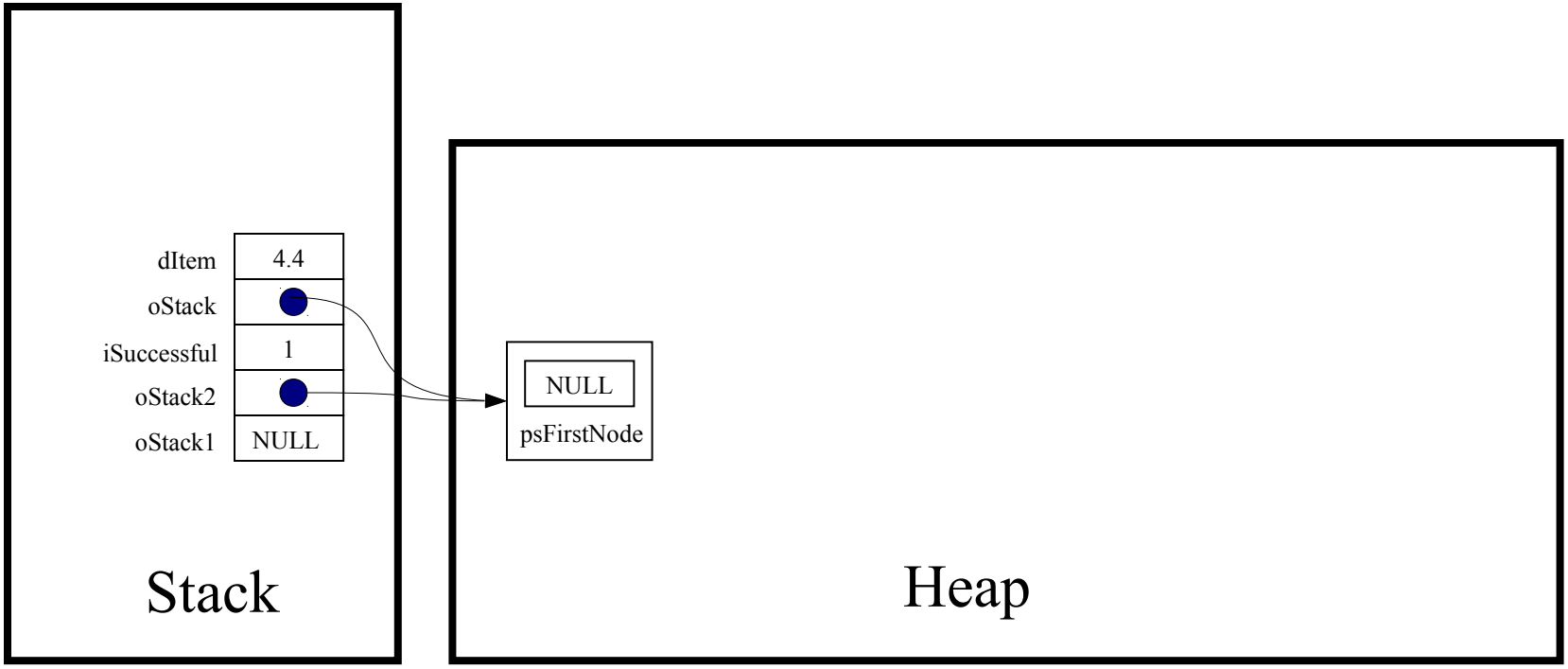
```
int Stack_push(Stack_T oStack, double dItem)
```



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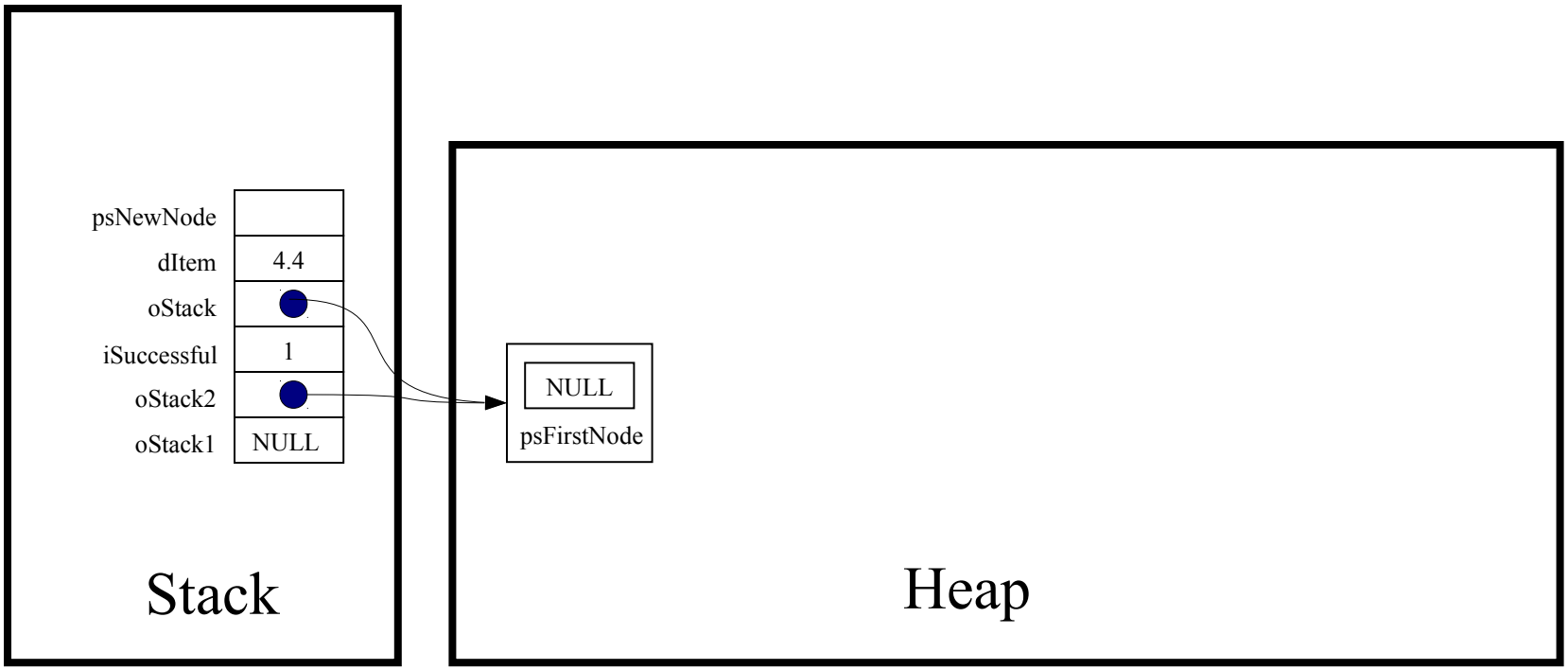
Trace of teststack (Version 4)

```
struct StackNode *psNewNode;
```



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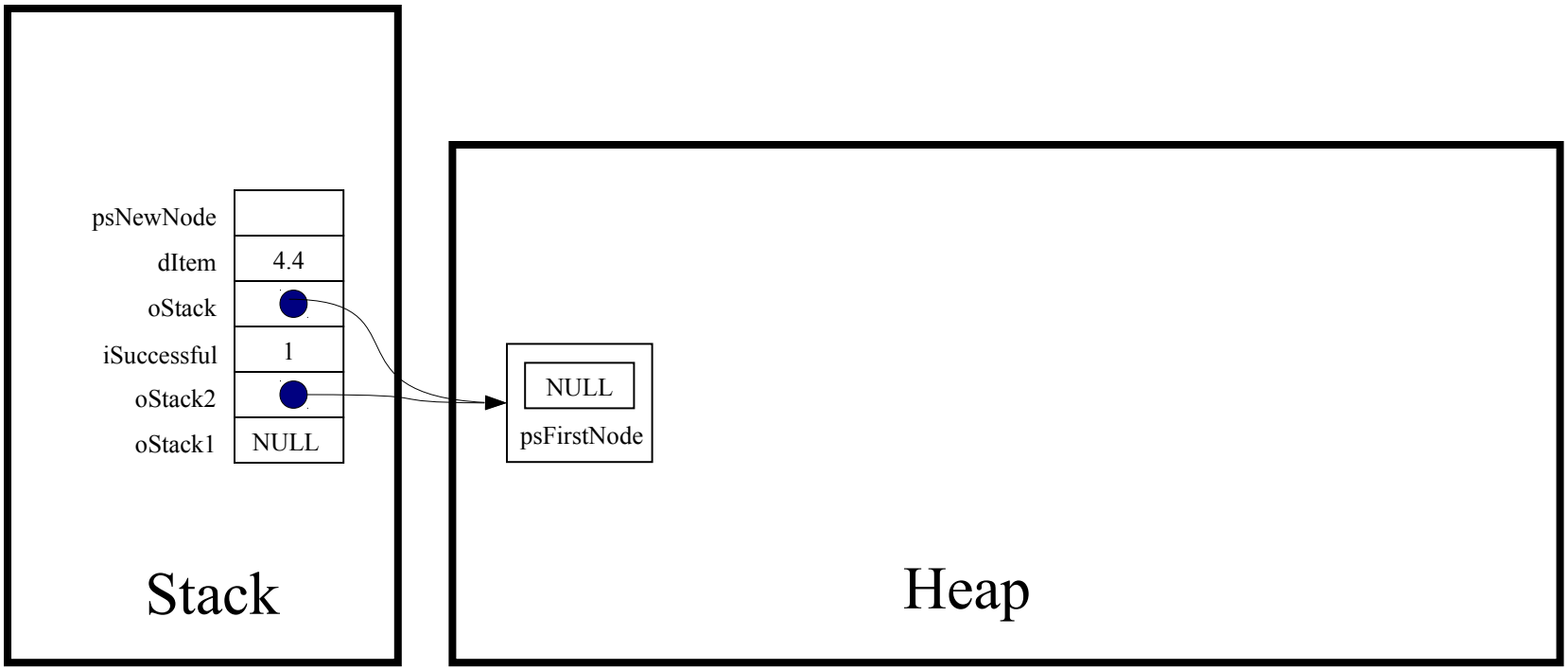
```
assert(oStack != NULL);
```



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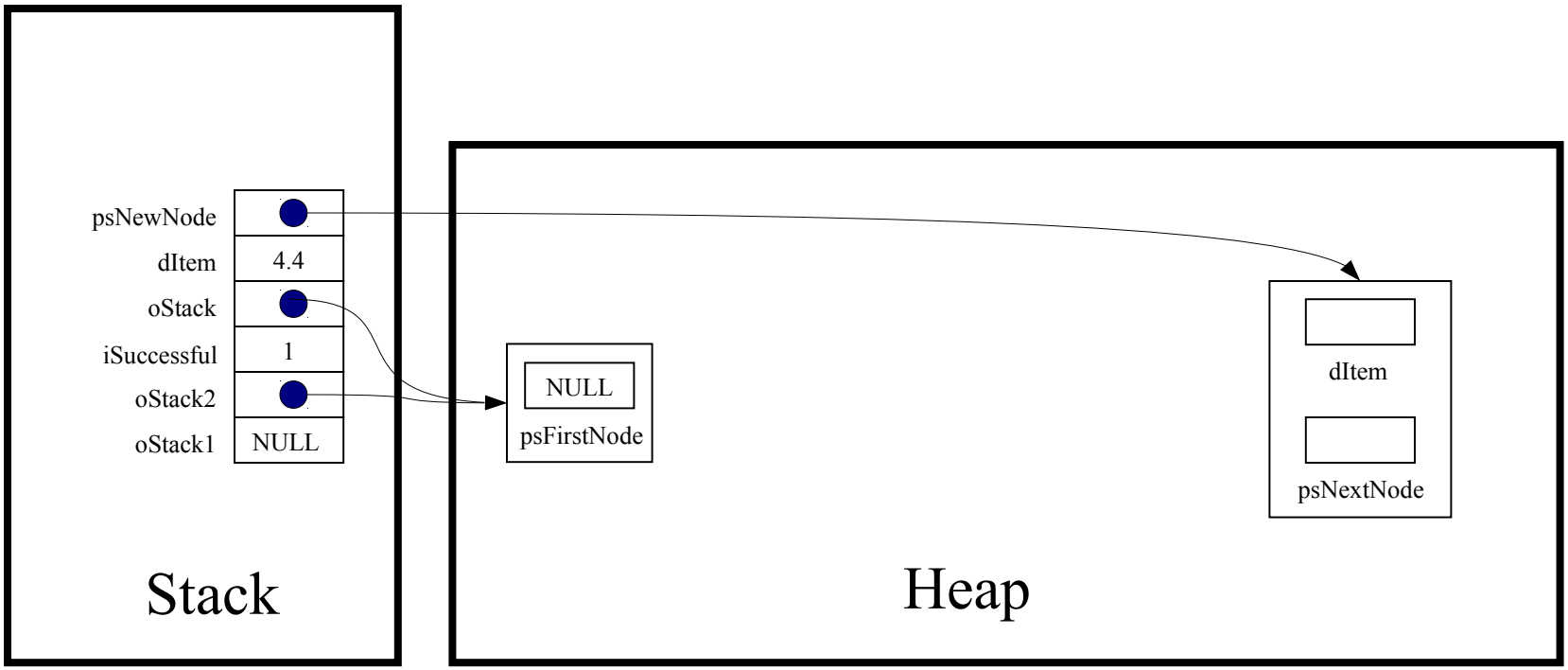
Trace of teststack (Version 4)

```
psNewNode = (struct StackNode*)malloc(sizeof(struct StackNode);
```



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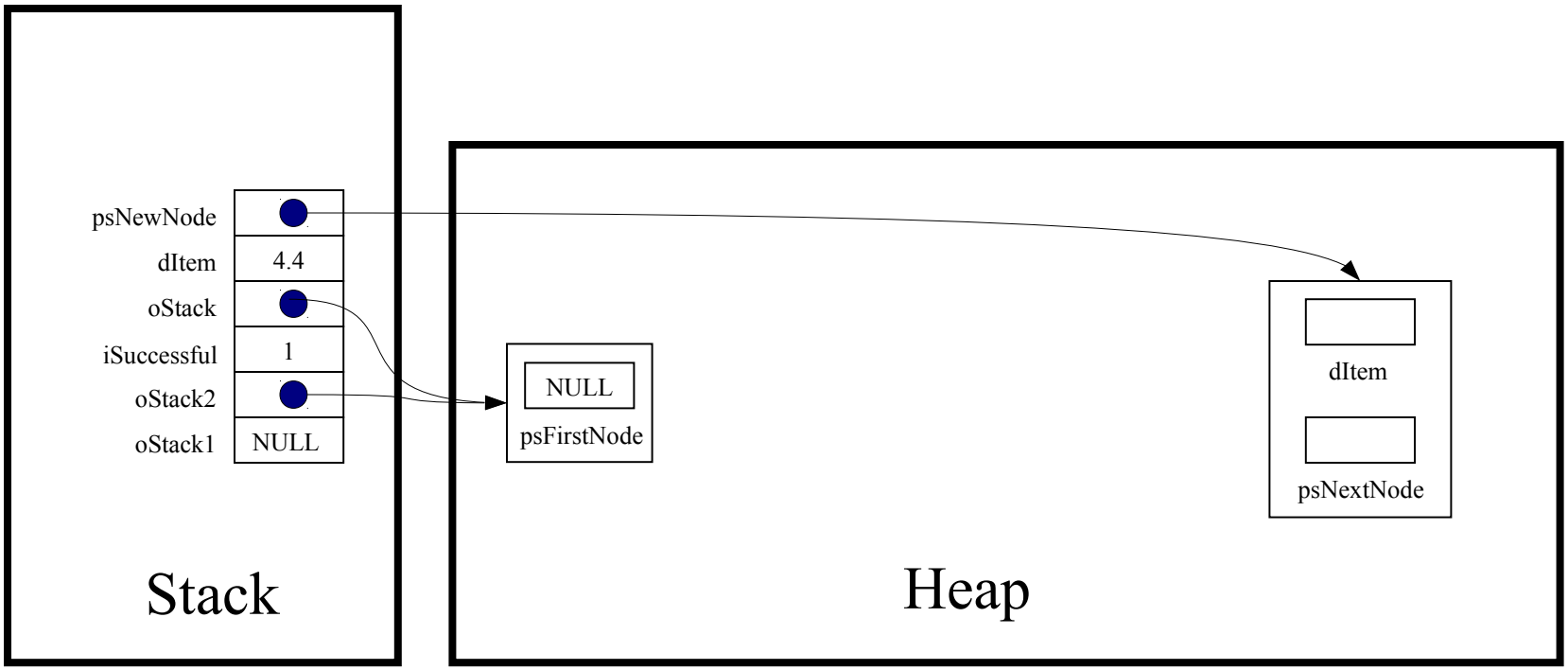
```
if (psNewNode == NULL)
   return 0;
```



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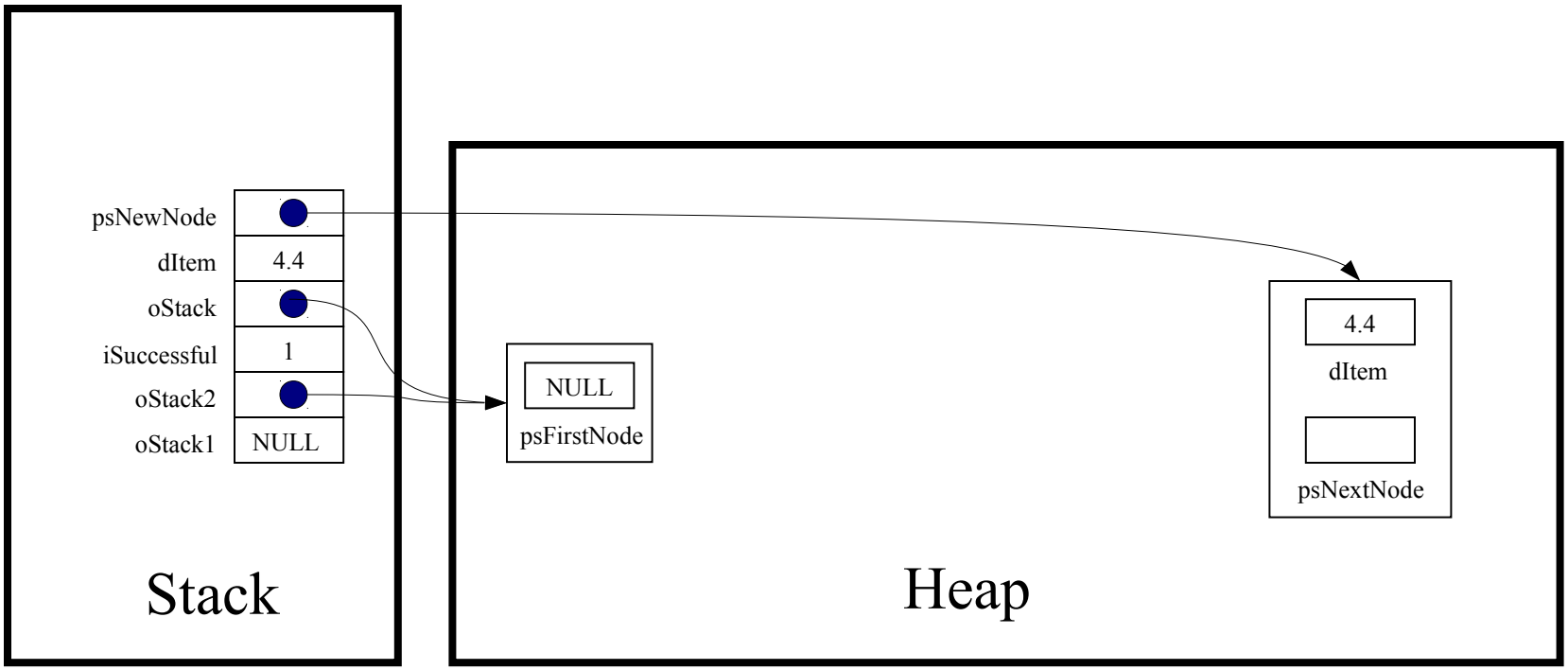
```
psNewNode->dItem = dItem;
```



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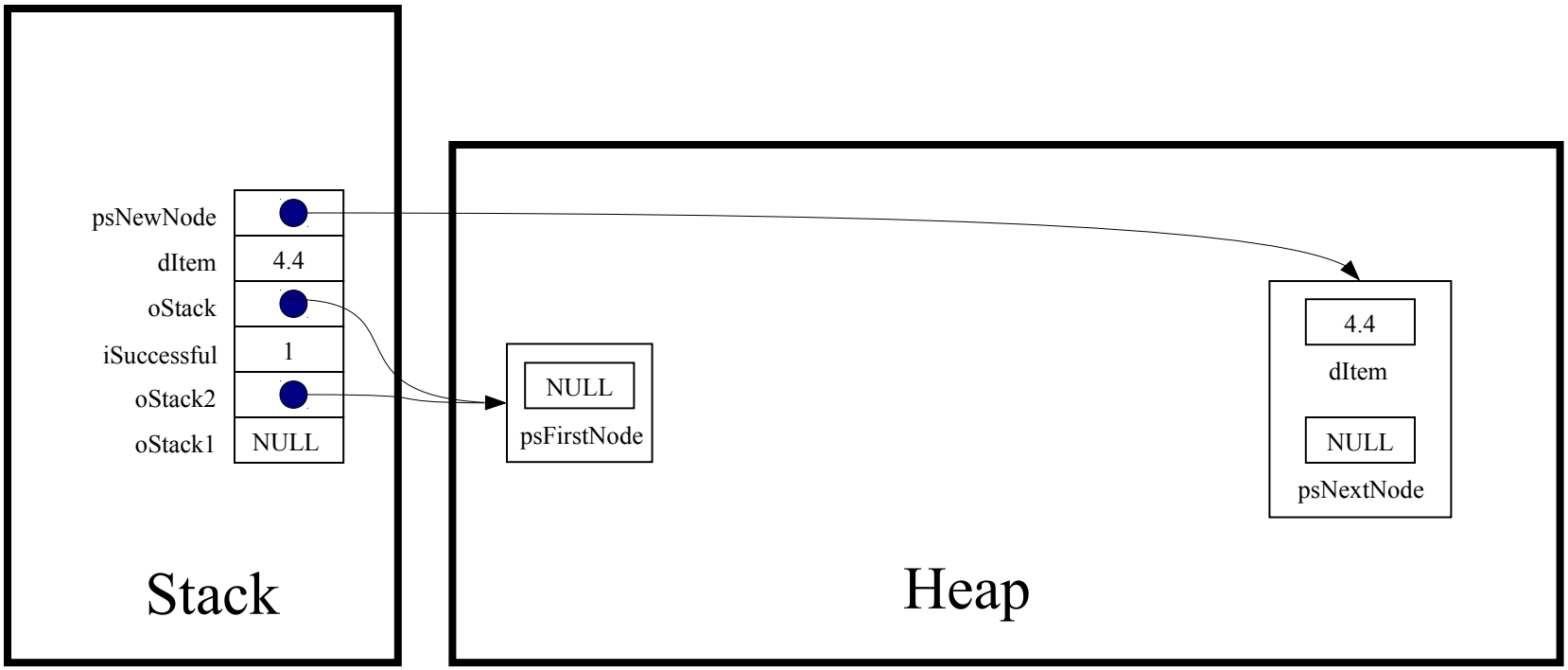
```
psNewNode->psNextNode = oStack→psFirstNode;
```



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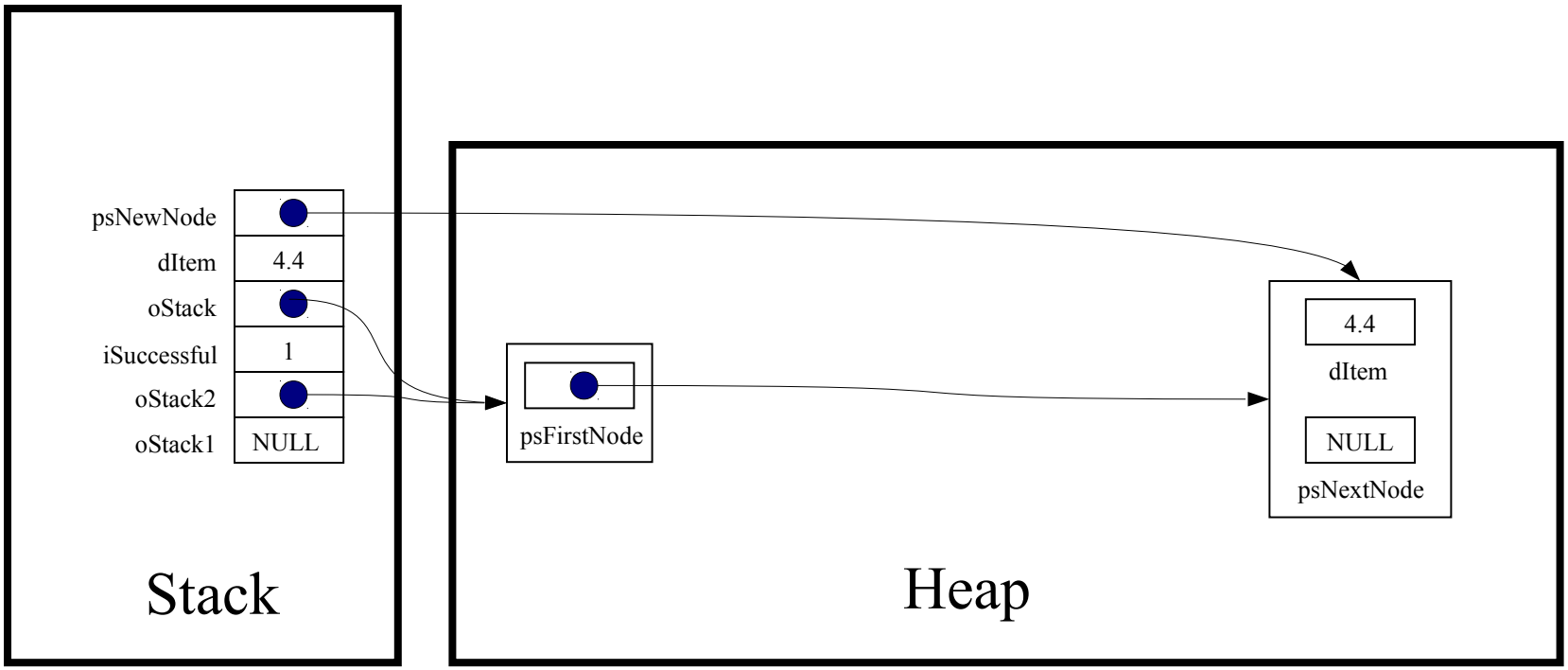
```
oStack→psFirstNode = psNewNode;
```



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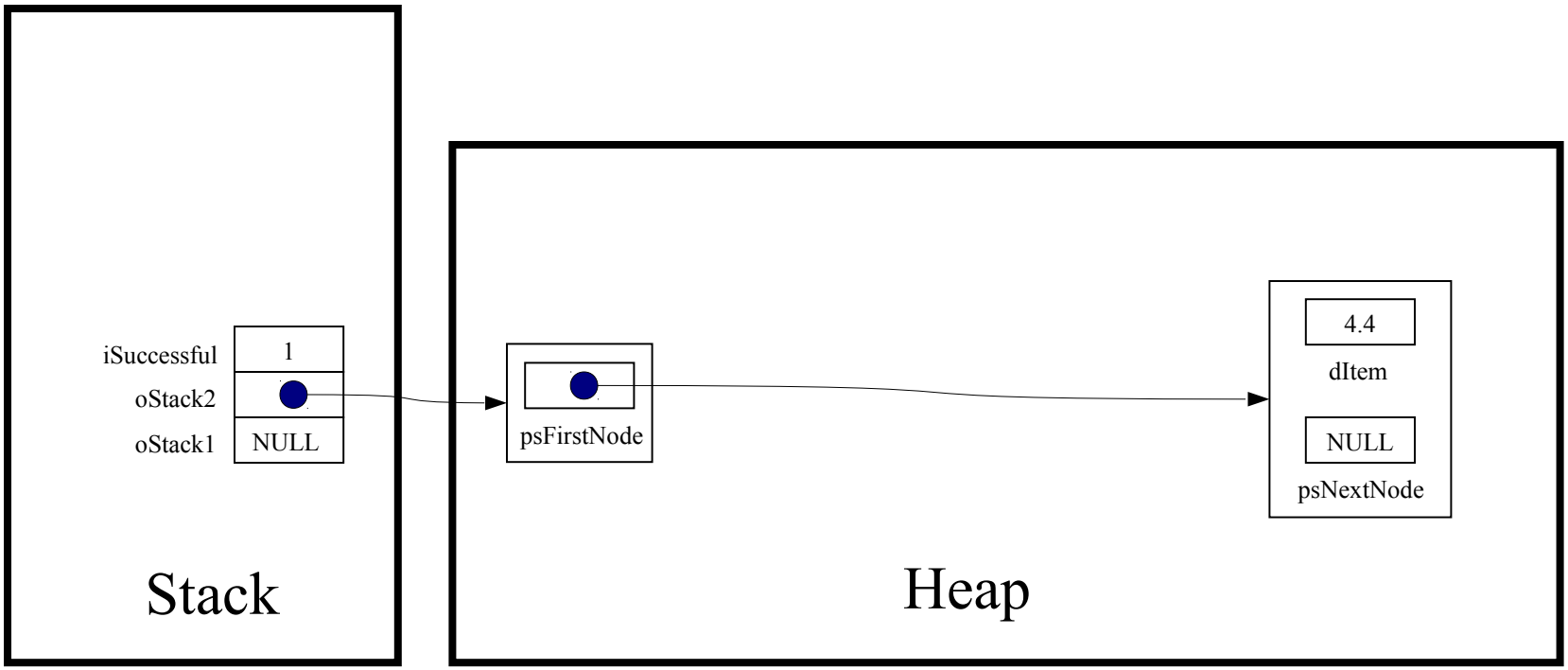
Trace of teststack (Version 4)

```
return 1;
```



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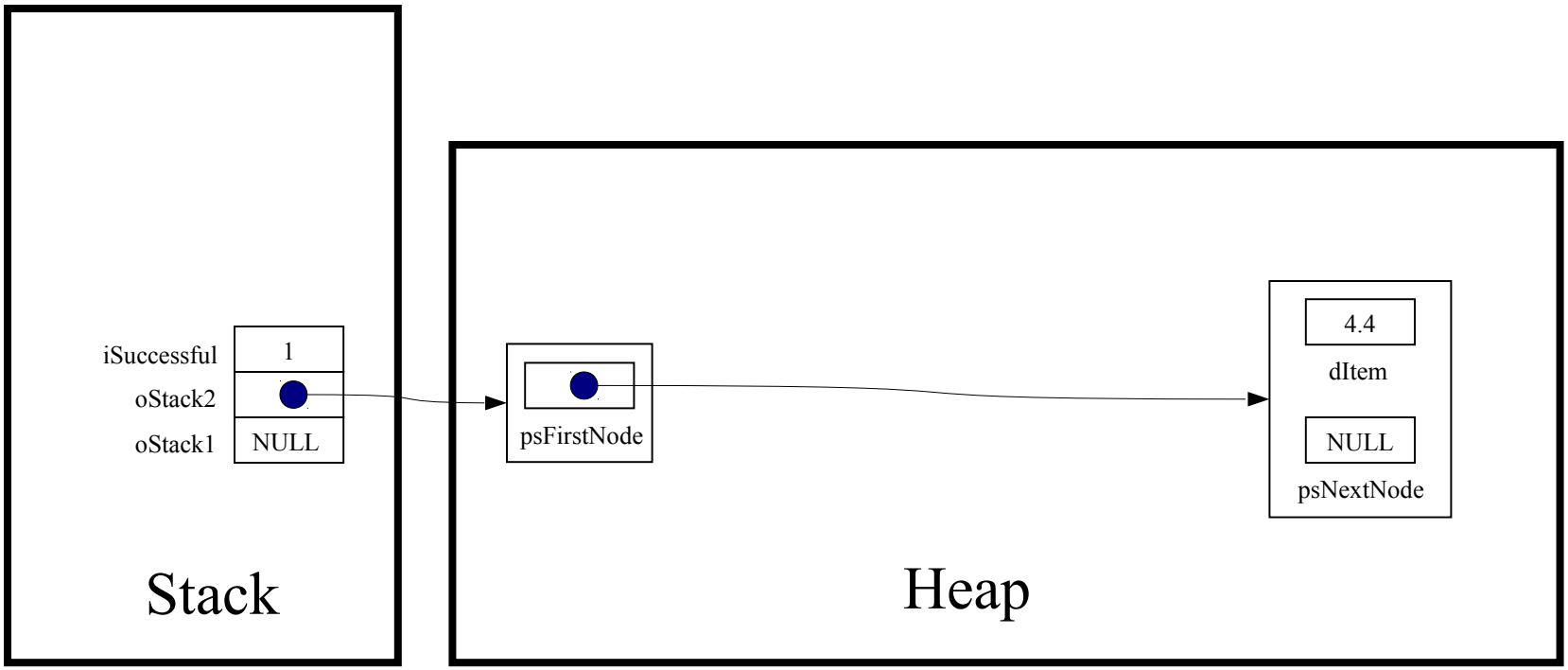
```
iSuccessful = Stack_push(oStack2, 4.4);
```



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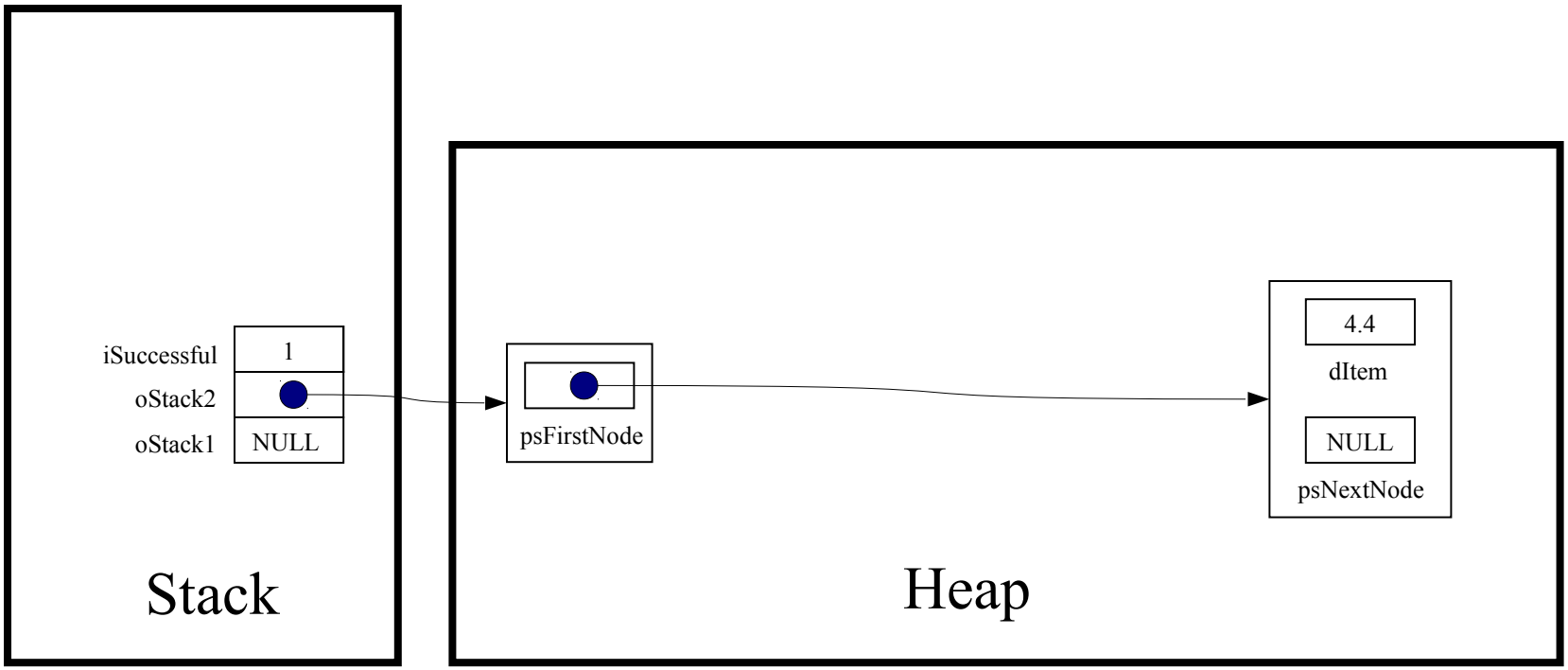
```
if (! iSuccessful) handleMemoryError();
```



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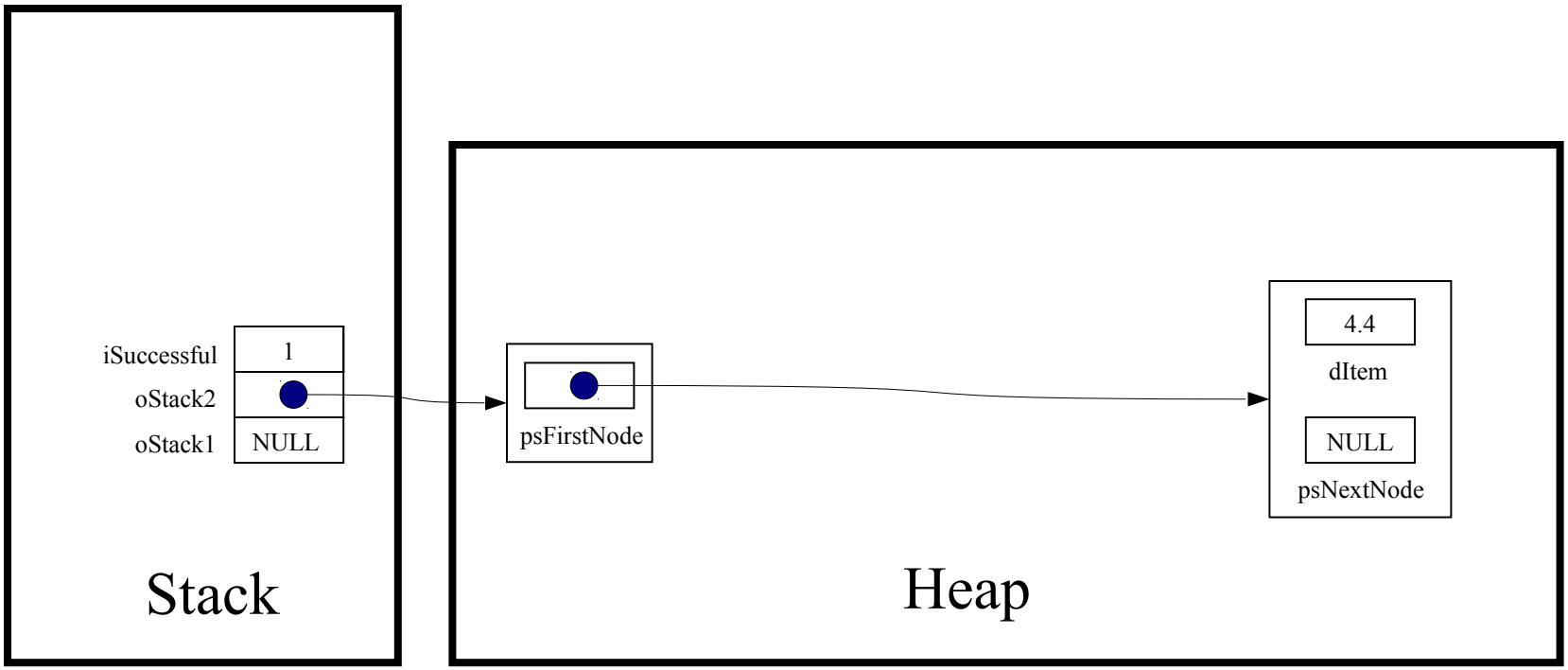
```
iSuccessful = Stack_push(oStack2, 5.5);
```



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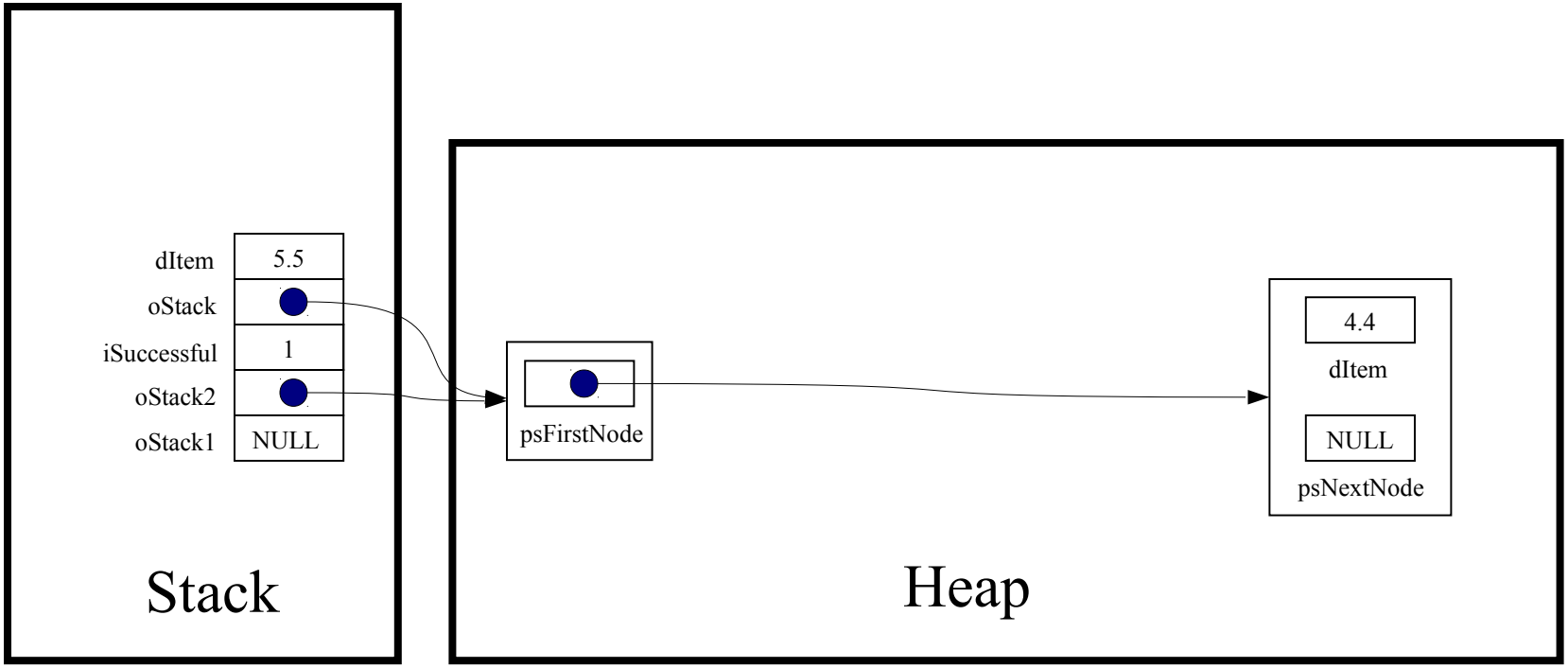
```
int Stack_push(Stack_T oStack, double dItem)
```



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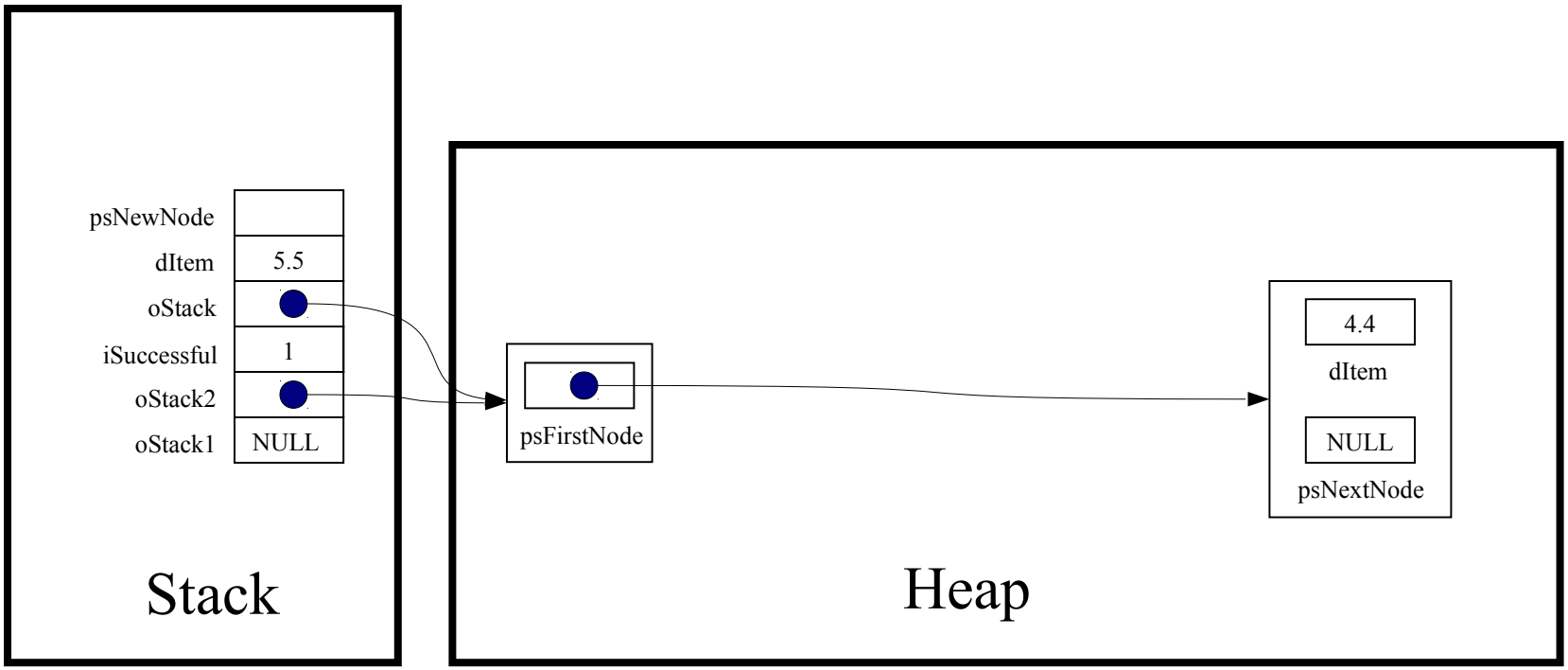
Trace of teststack (Version 4)

```
struct StackNode *psNewNode;
```



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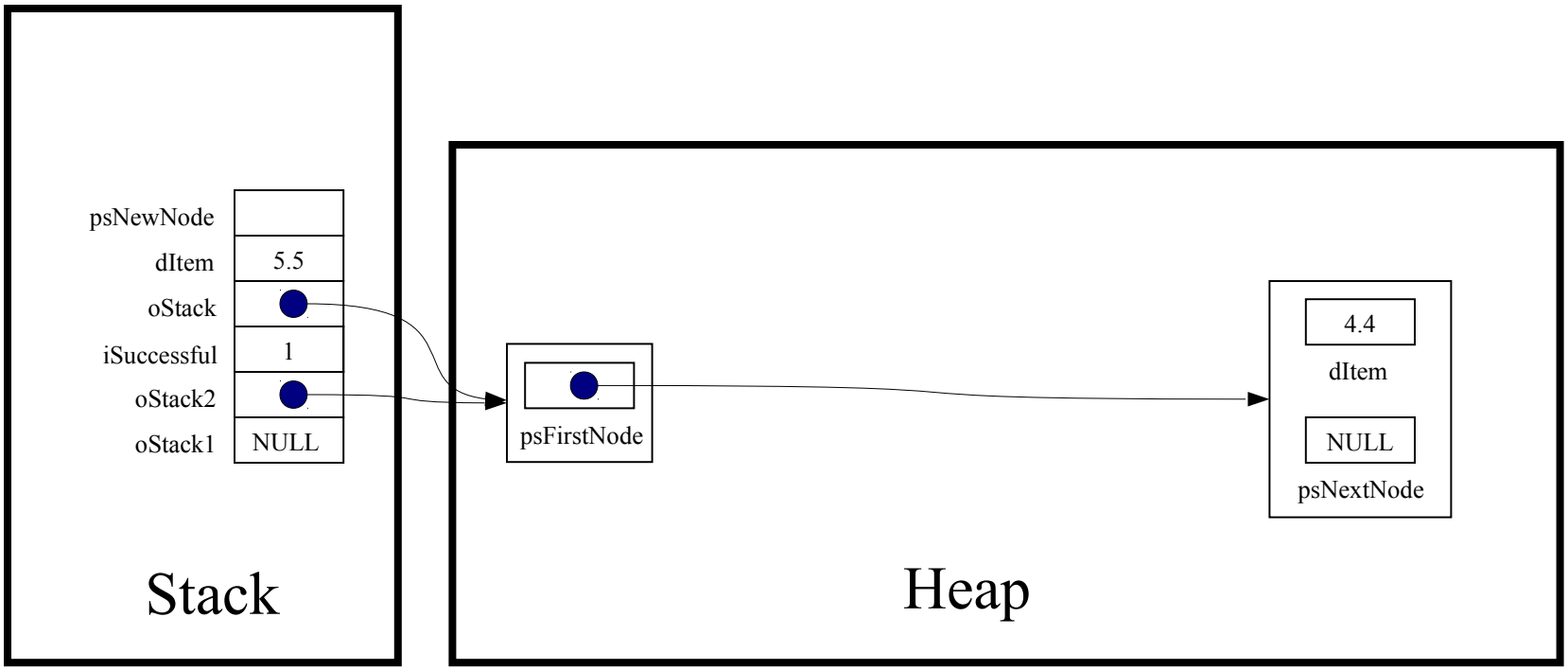
```
assert(oStack != NULL);
```



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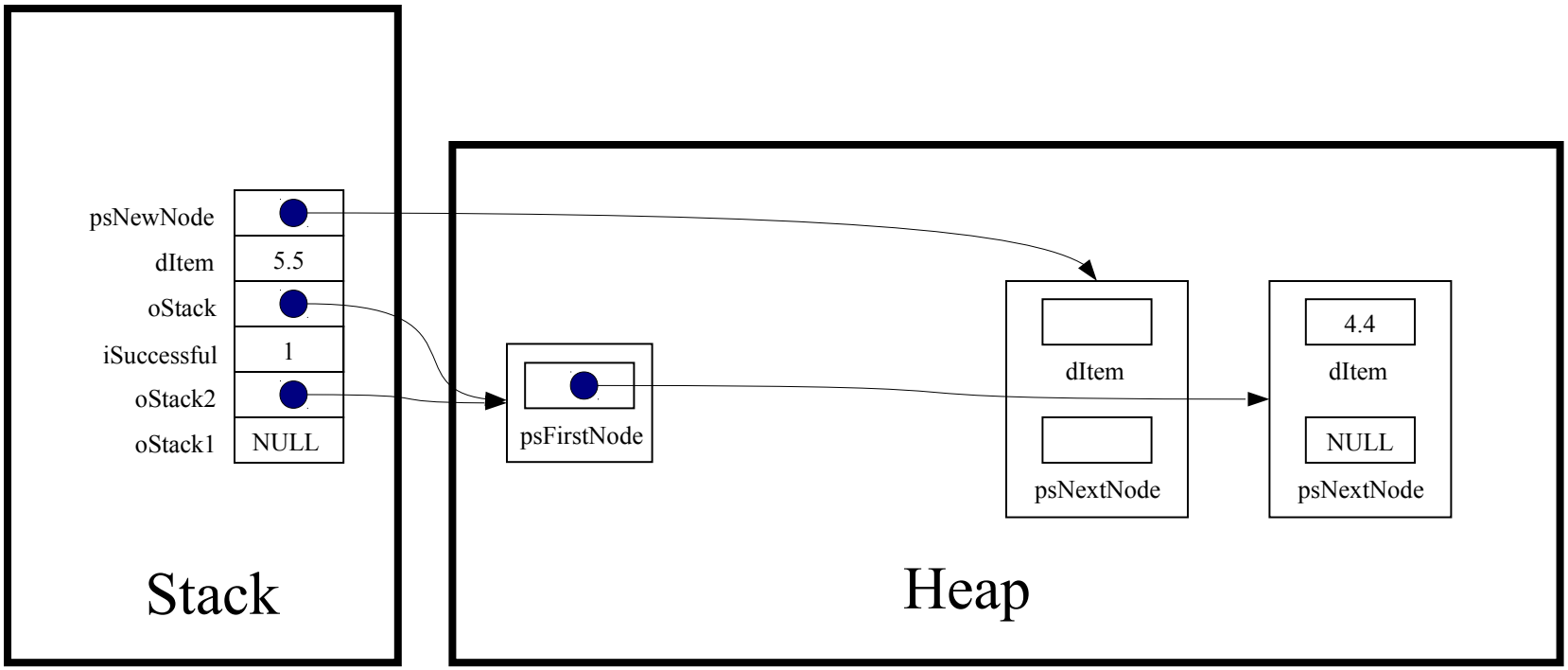
```
psNewNode = (struct StackNode*)malloc(sizeof(struct StackNode);
```



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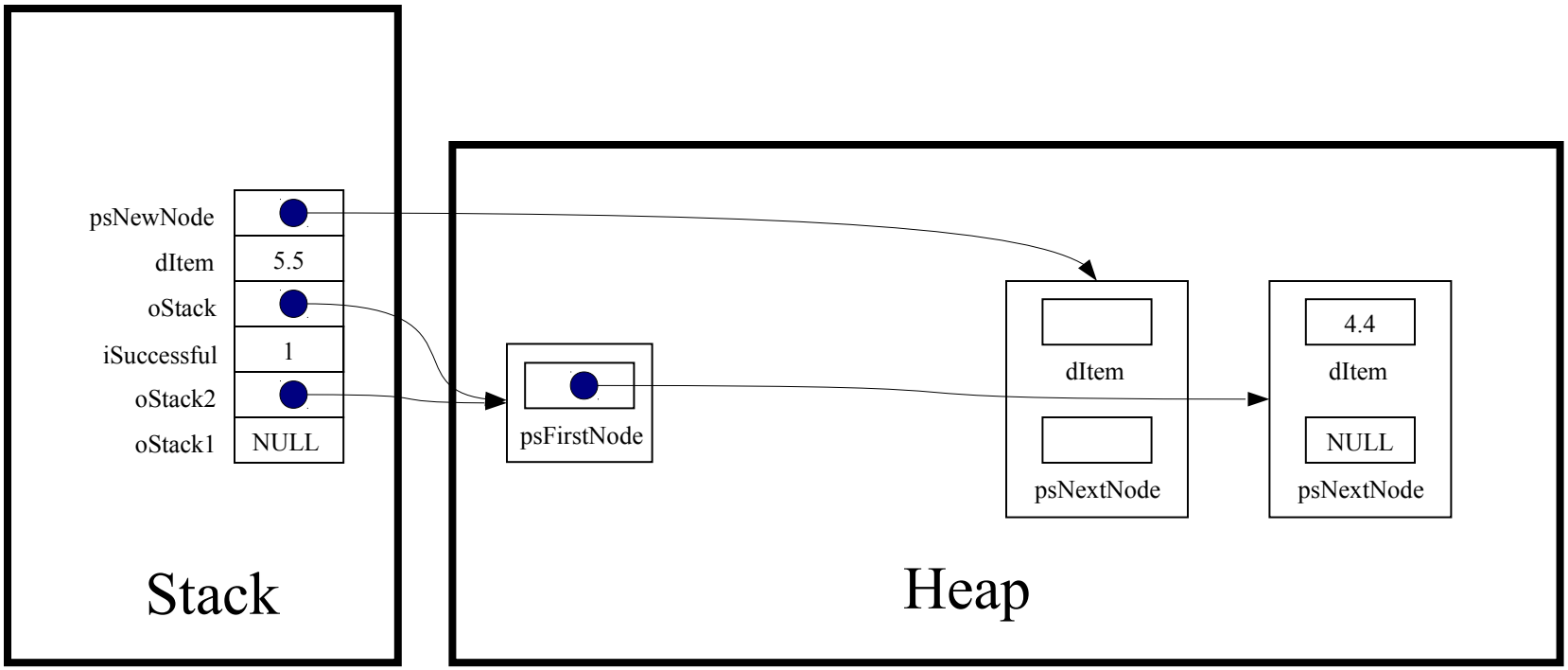
```
if (psNewNode == NULL)
   return 0;
```



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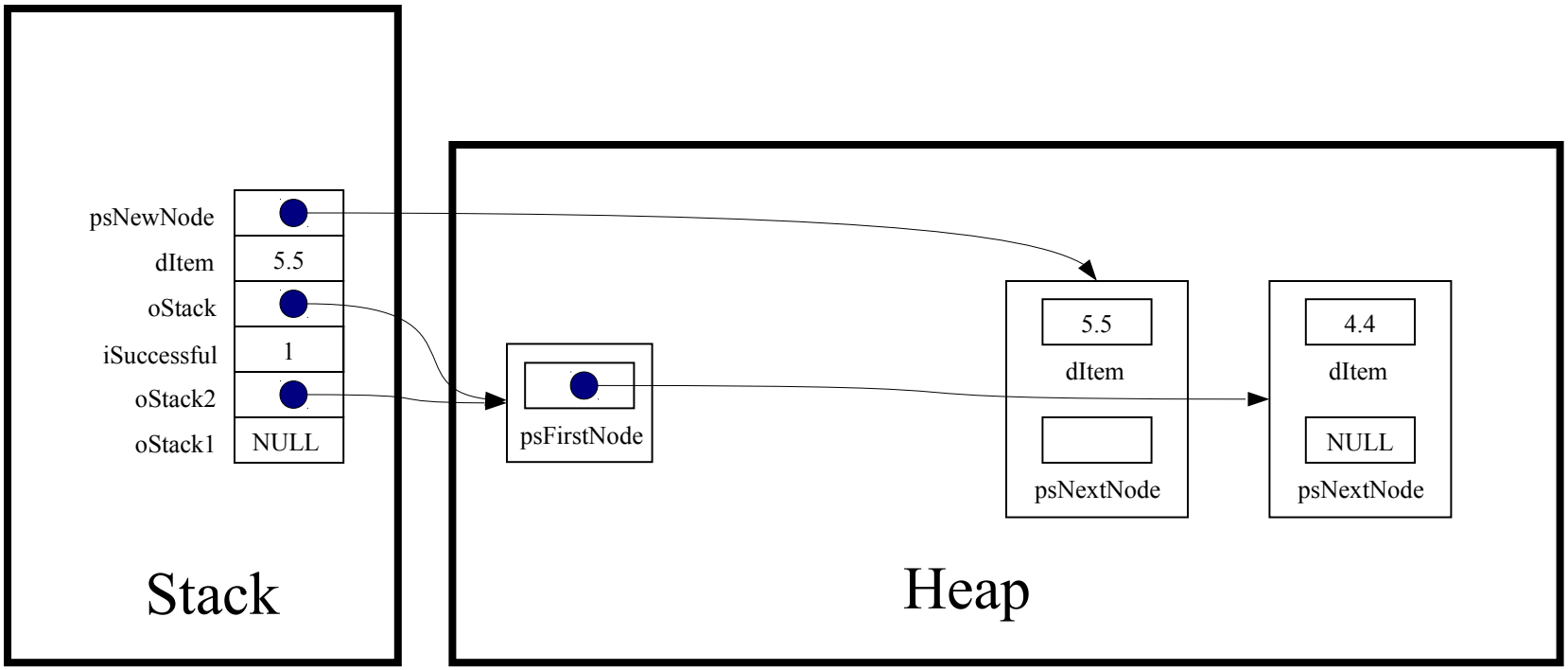
```
psNewNode->dItem = dItem;
```



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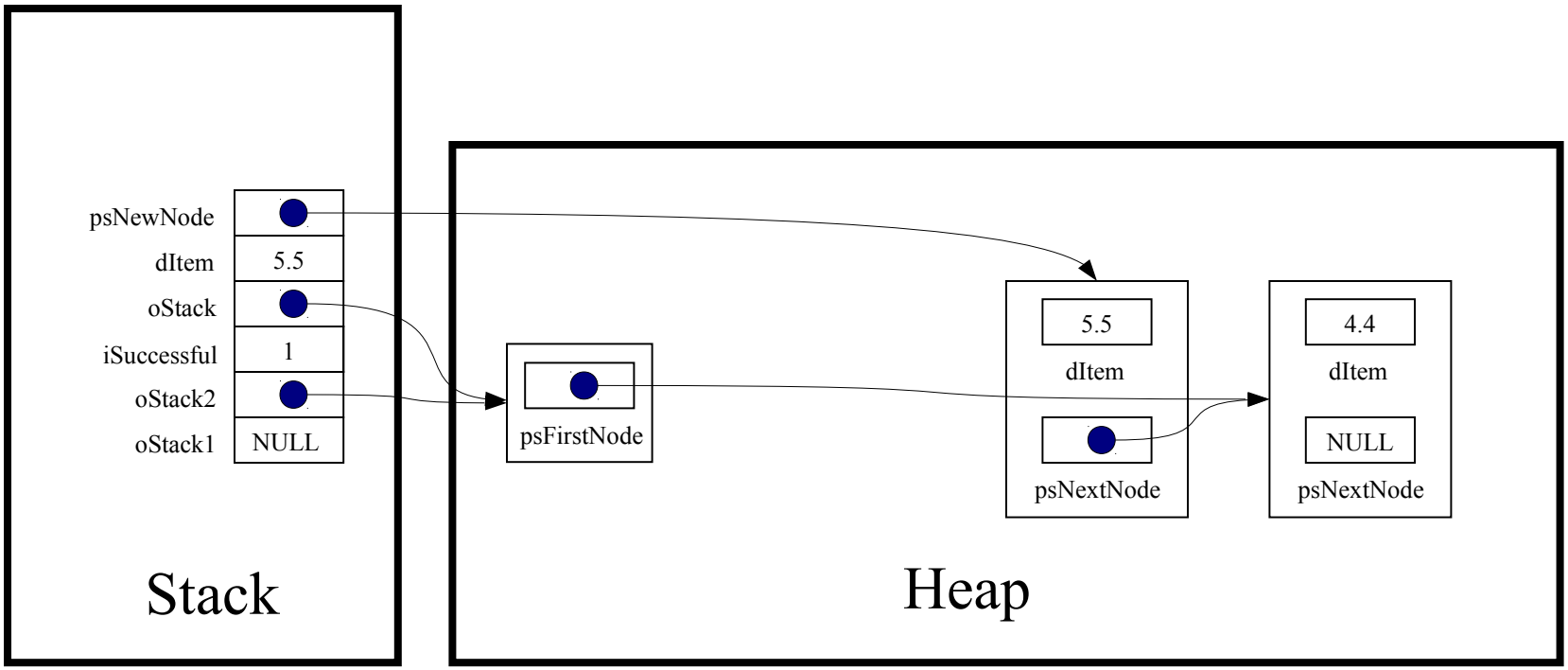
```
psNewNode->psNextNode = oStack->psFirstNode;
```



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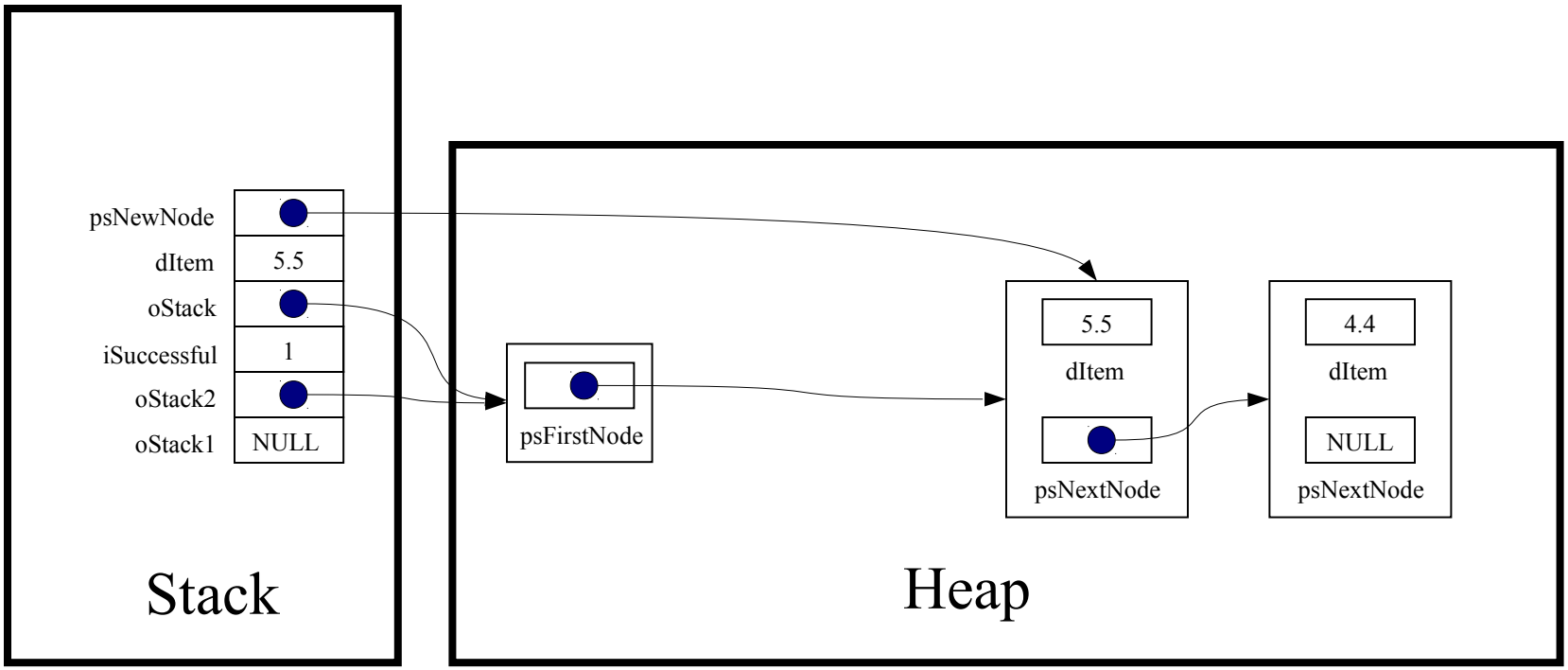
Trace of teststack (Version 4)

```
oStack->psFirstNode = psNewNode;
```



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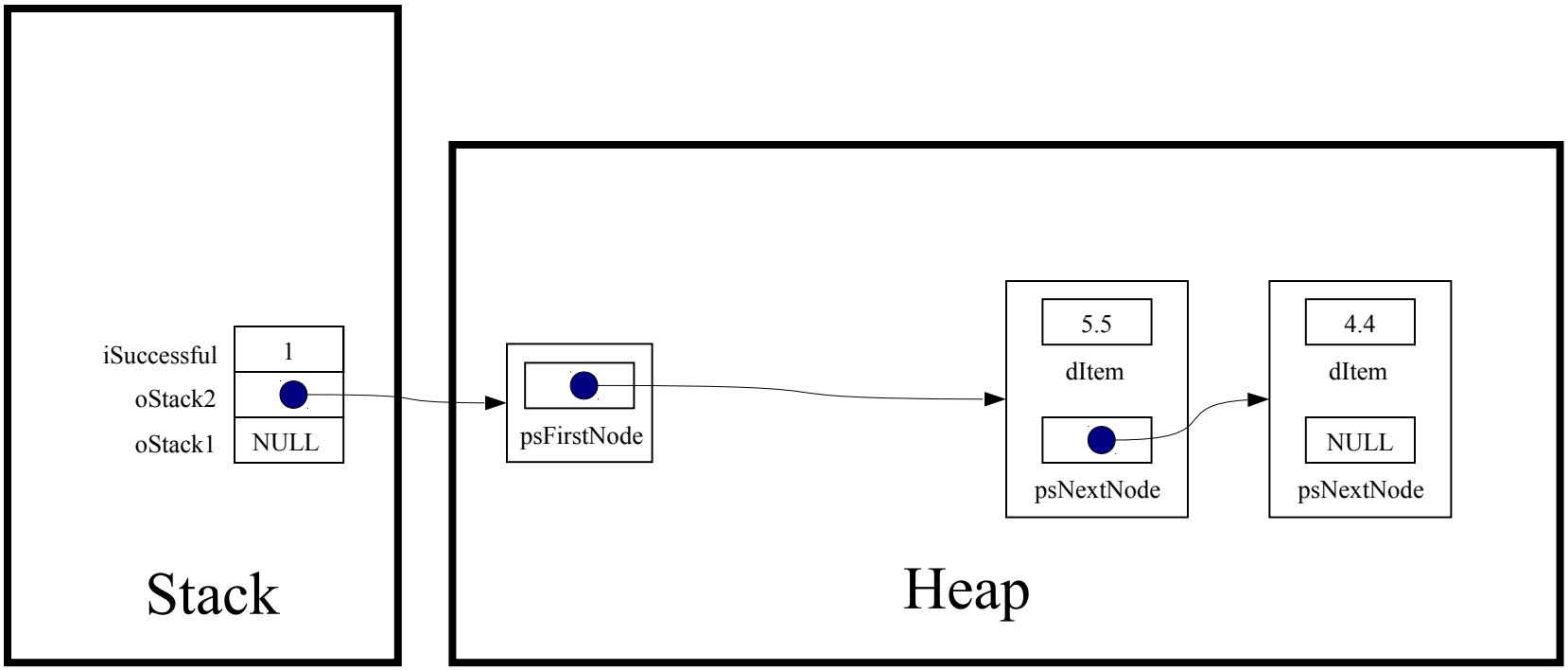
Trace of teststack (Version 4)

```
return 1;
```



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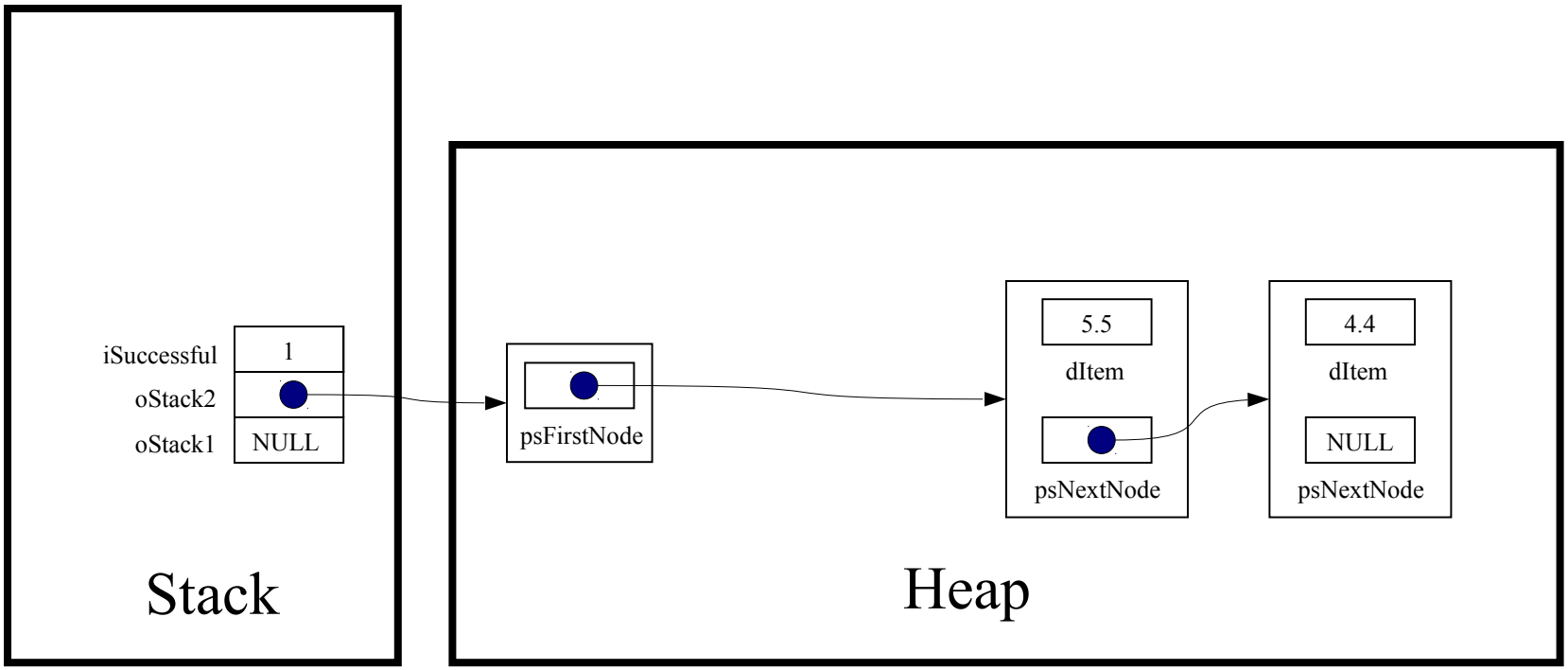
Trace of teststack (Version 4)

```
iSuccessful = Stack_push(oStack2, 5.5);
```



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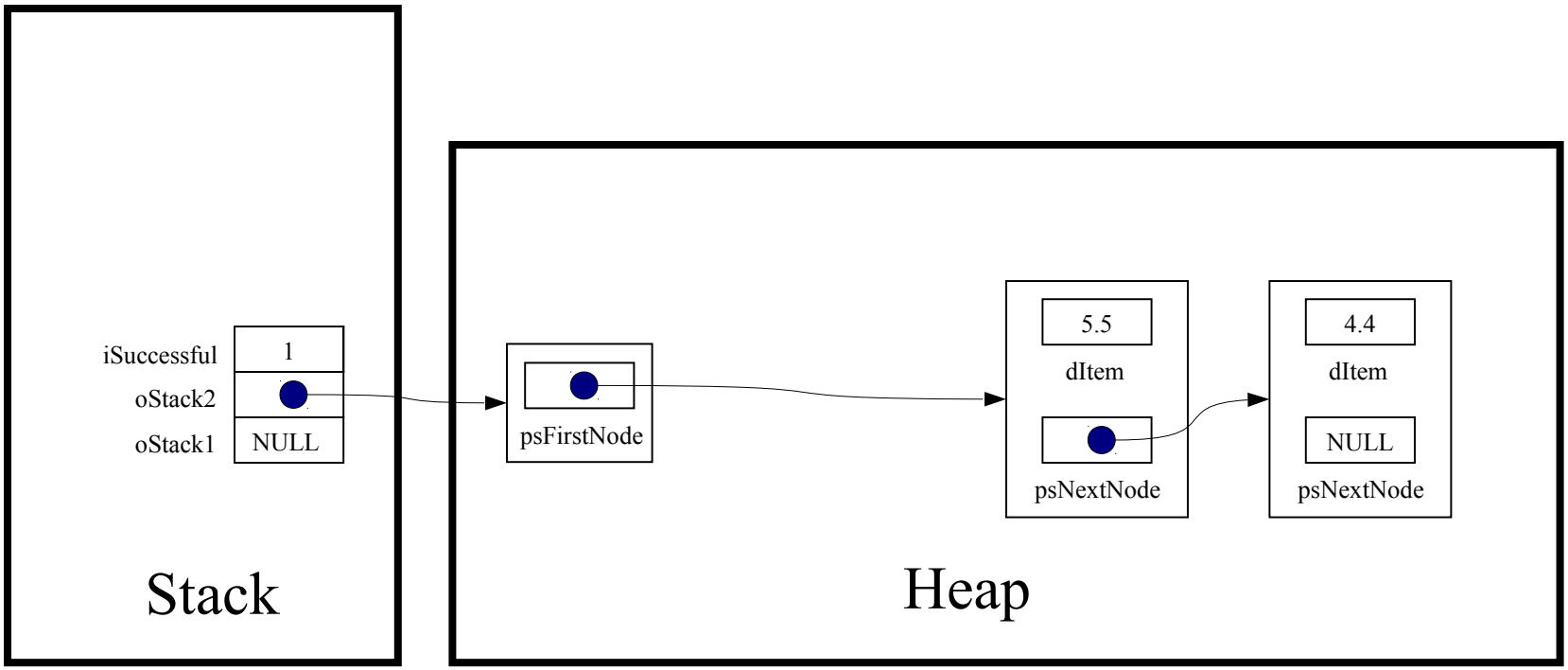
```
if (! iSuccessful) handleMemoryError();
```



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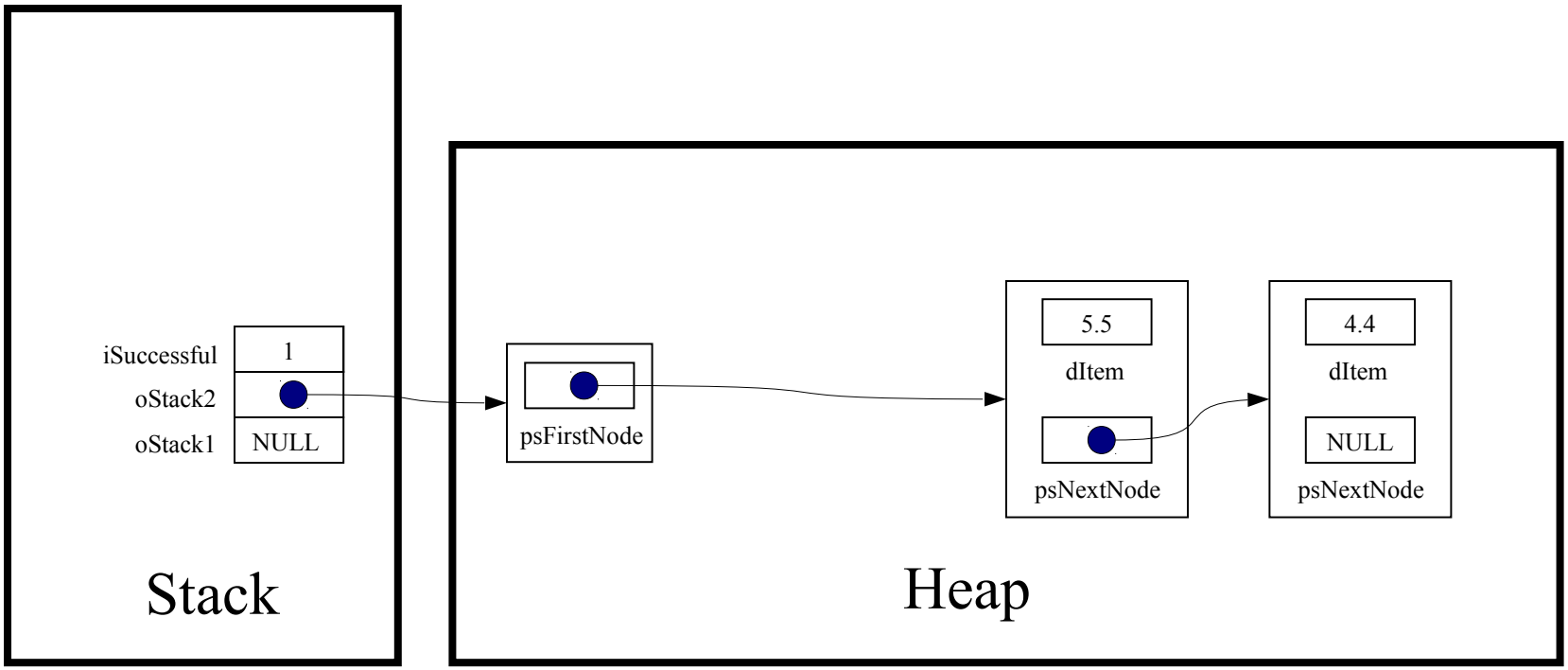
```
iSuccessful = Stack_push(oStack2, 6.6);
```



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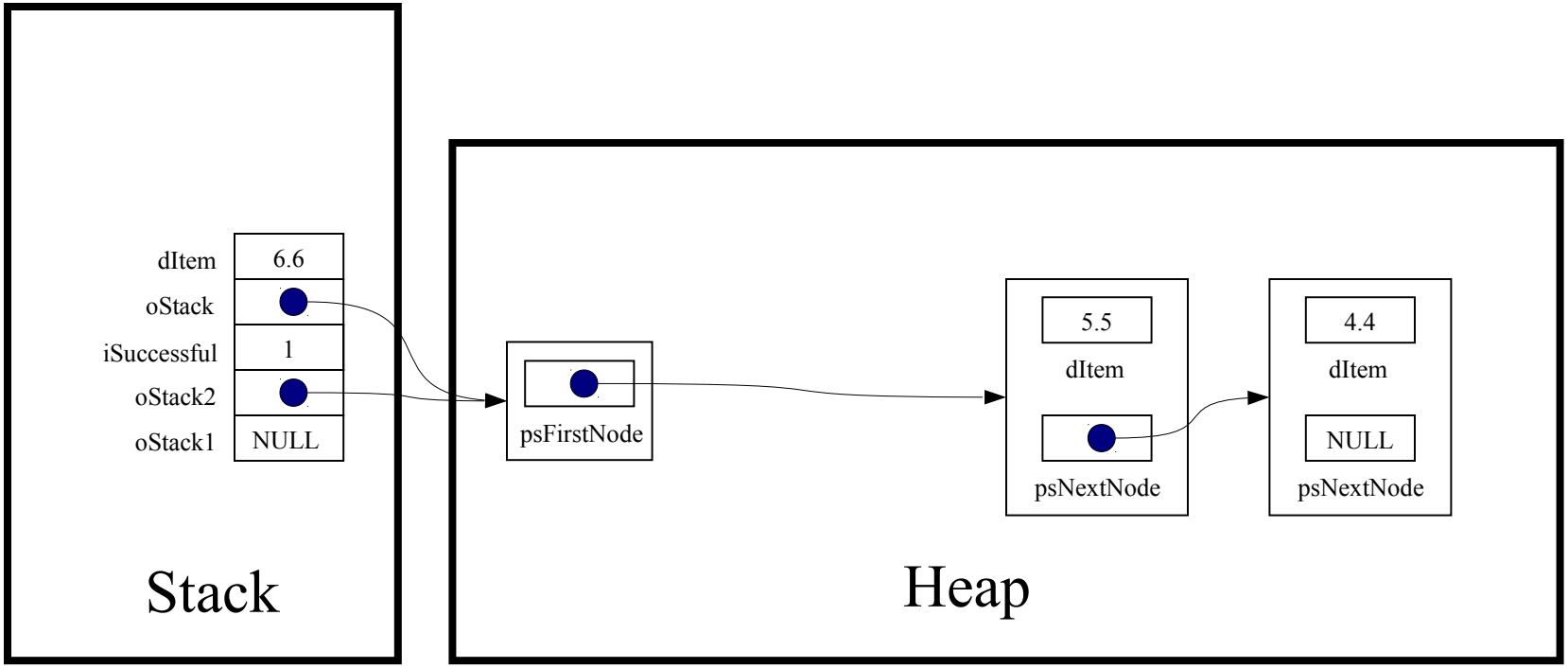
```
int Stack_push(Stack_T oStack, double dItem)
```



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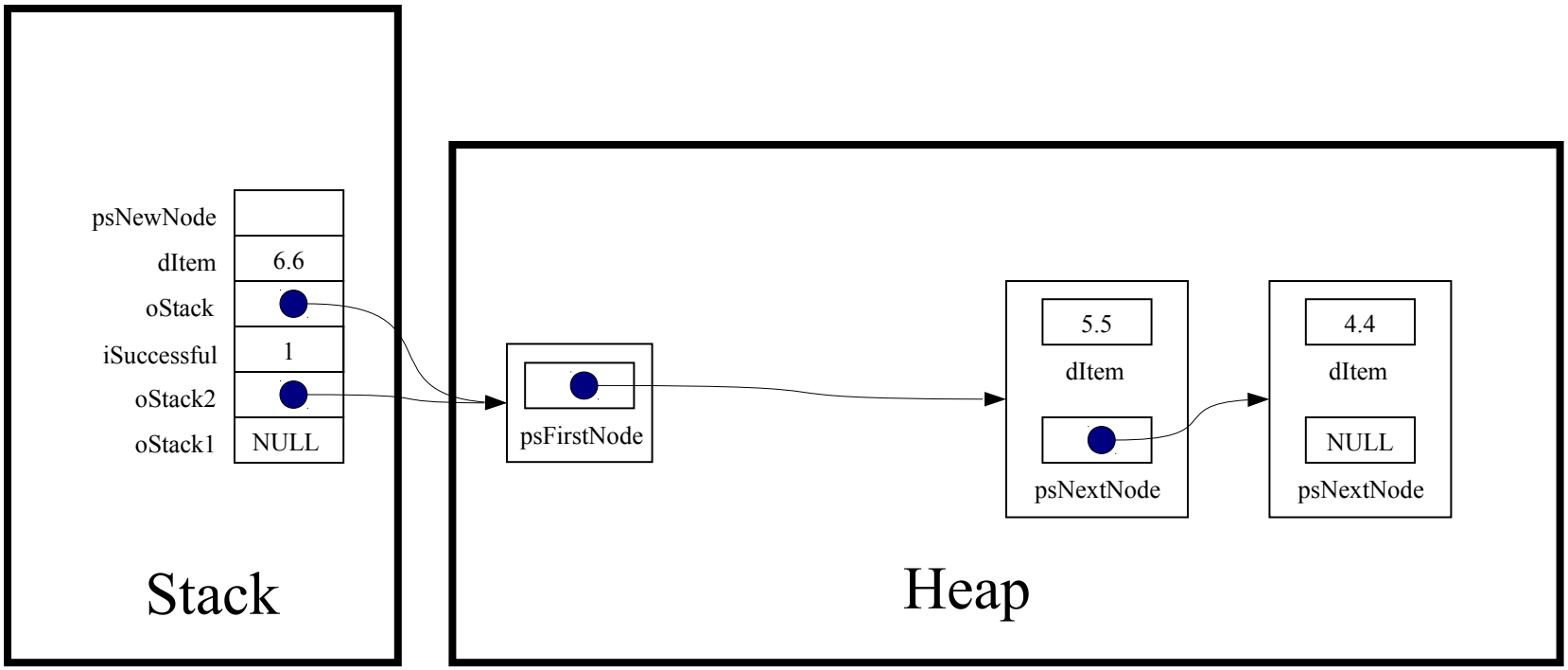
```
struct StackNode *psNewNode;
```



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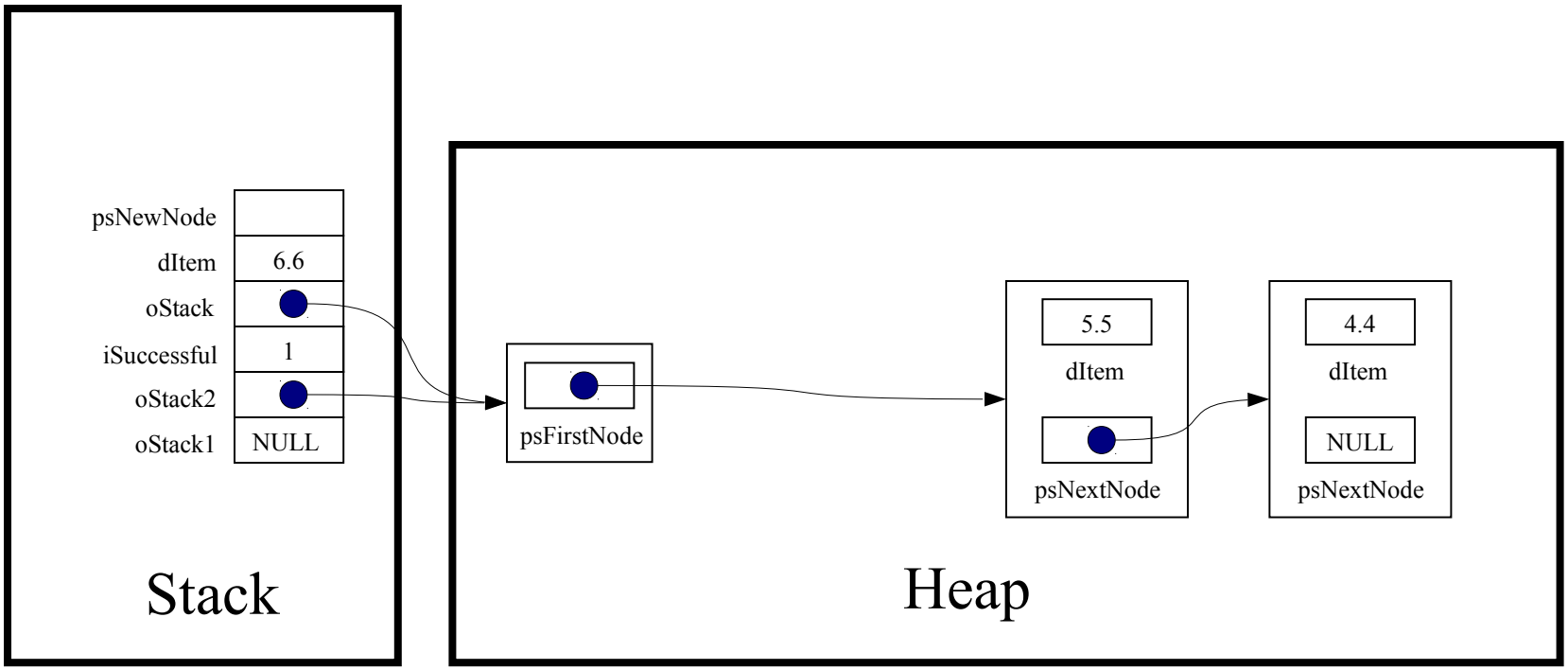
```
assert(oStack != NULL);
```



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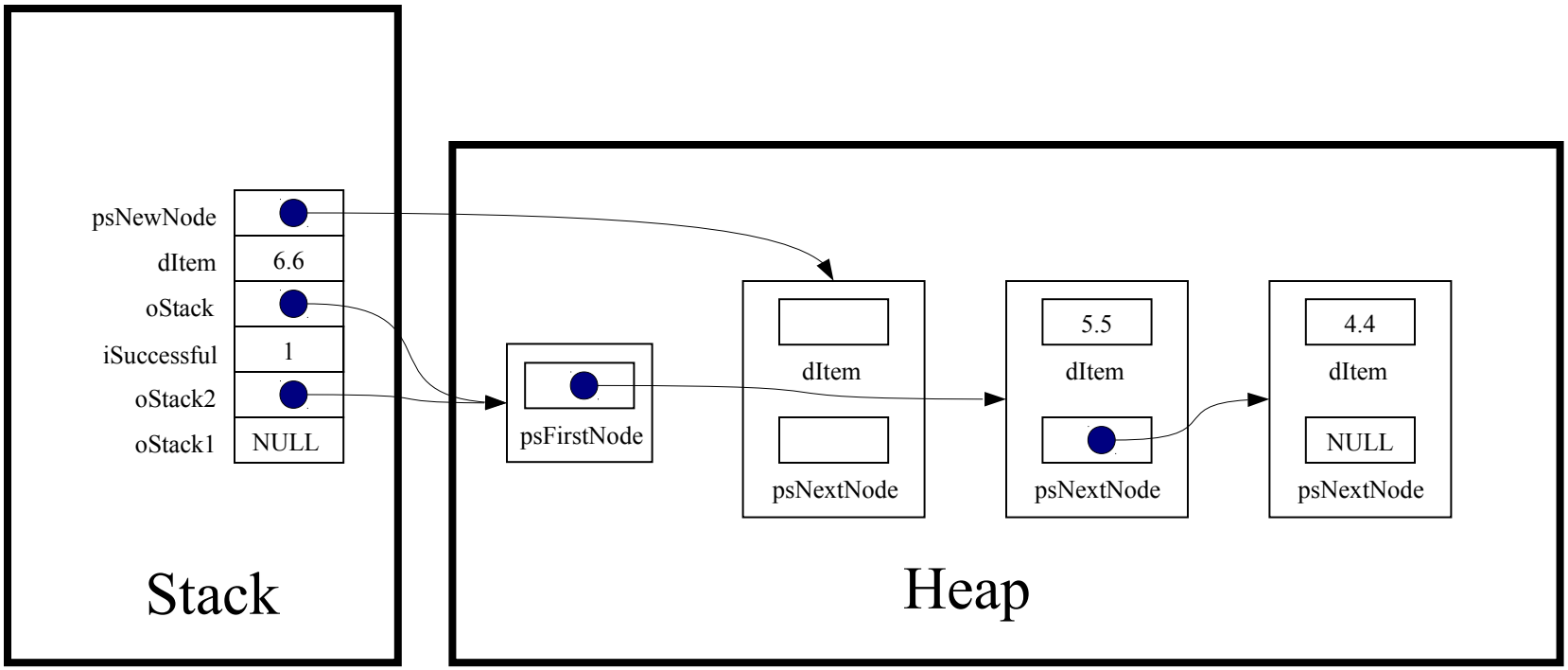
```
psNewNode = (struct StackNode*)malloc(sizeof(struct StackNode));
```



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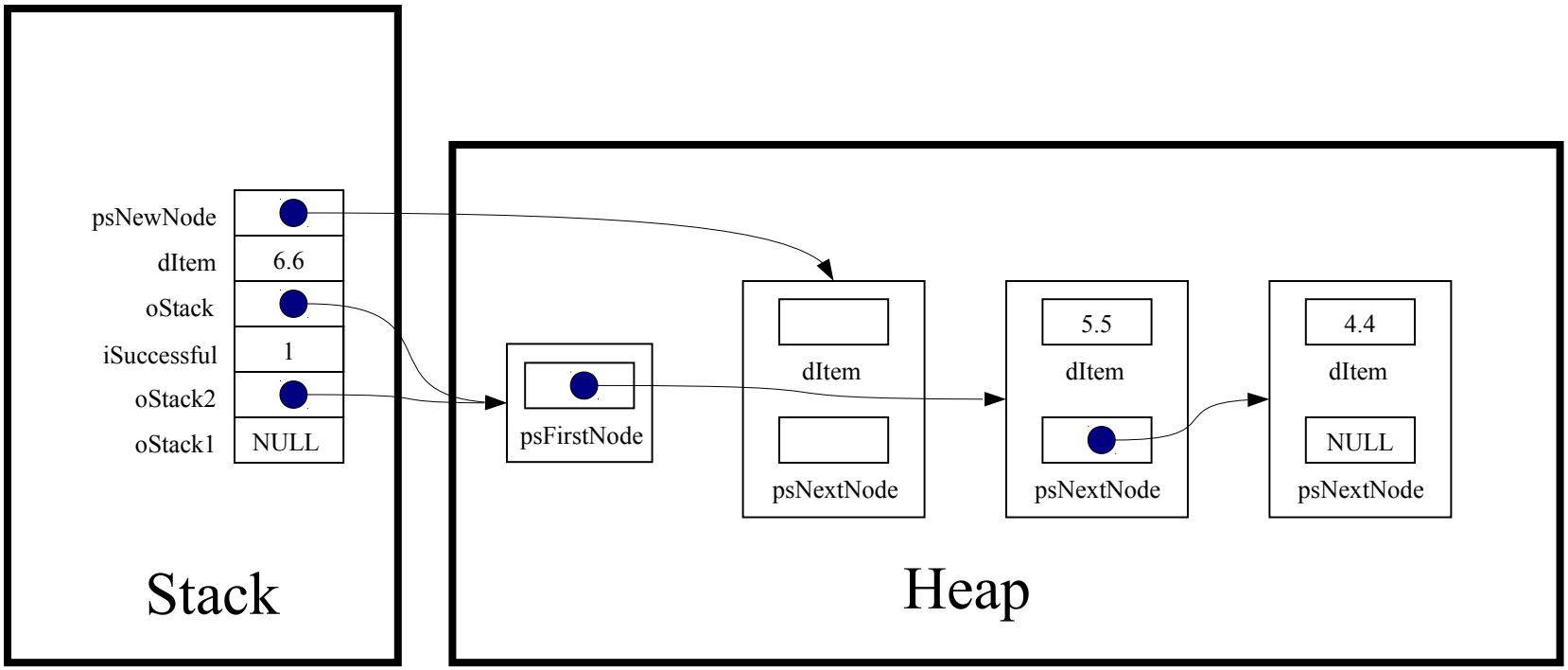
```
if (psNewNode == NULL)
   return 0;
```



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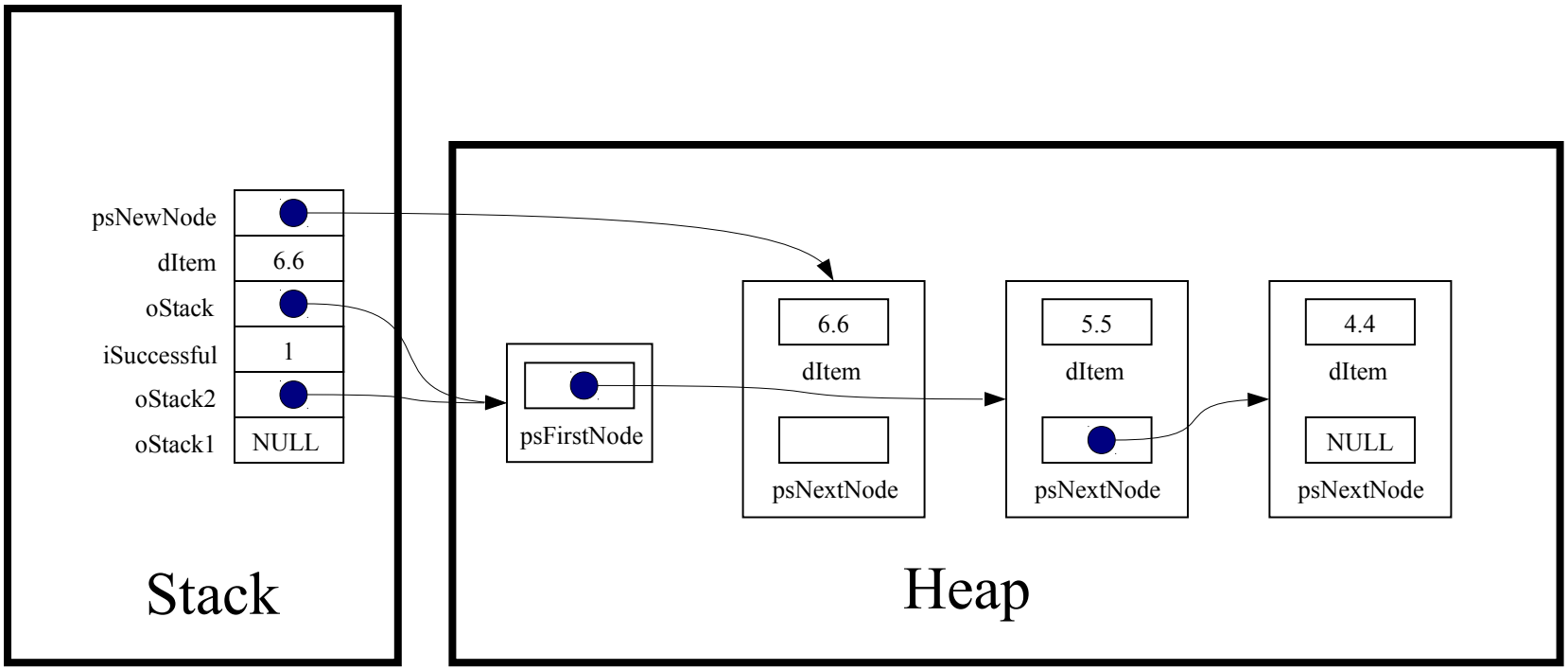
```
psNewNode->dItem = dItem;
```



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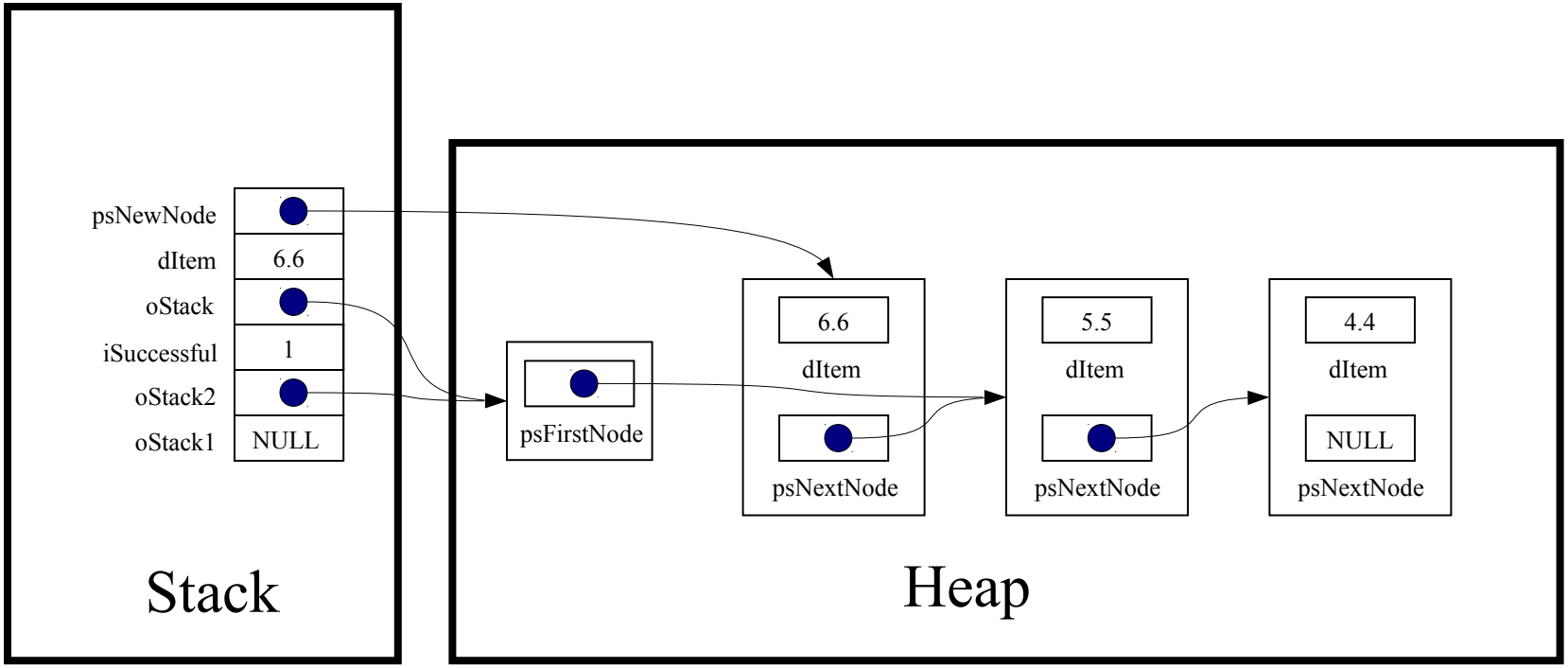
```
psNewNode->psNextNode = oStack->psFirstNode;
```



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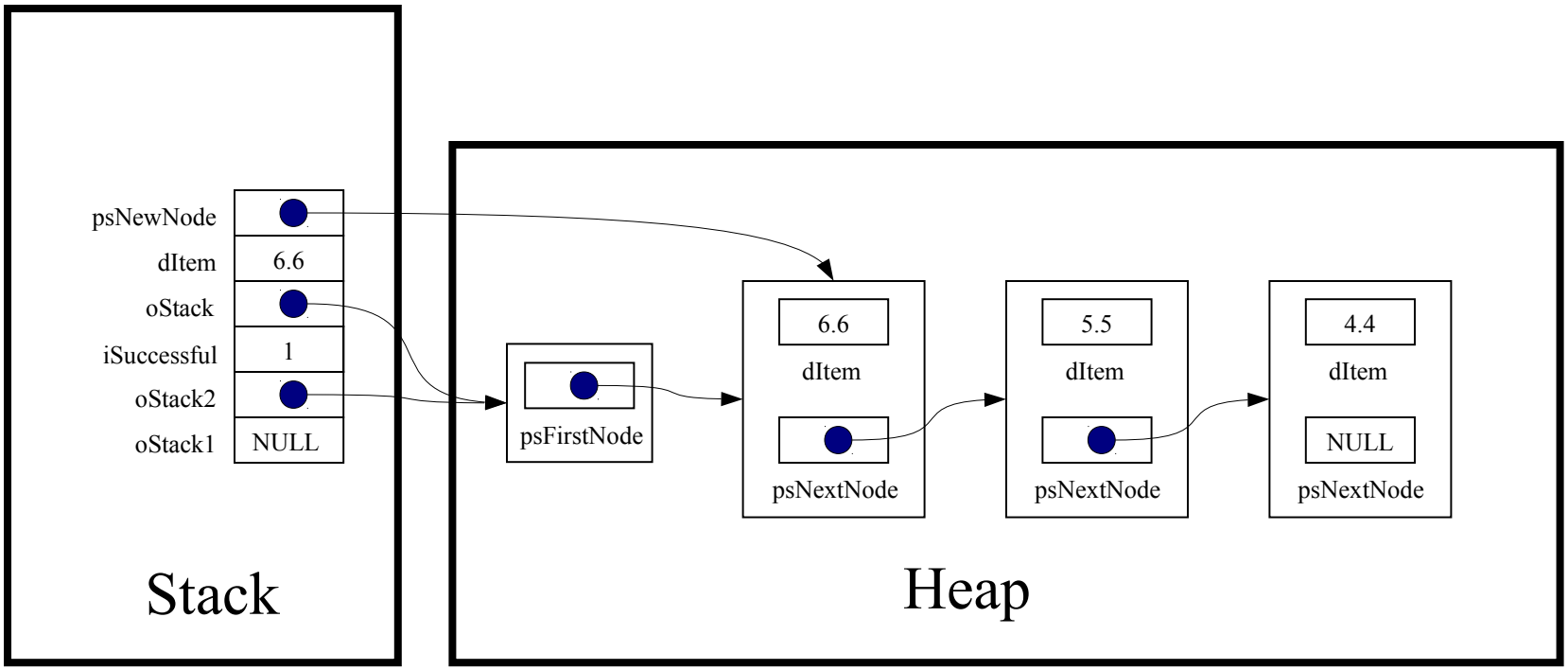
```
oStack->psFirstNode = psNewNode;
```



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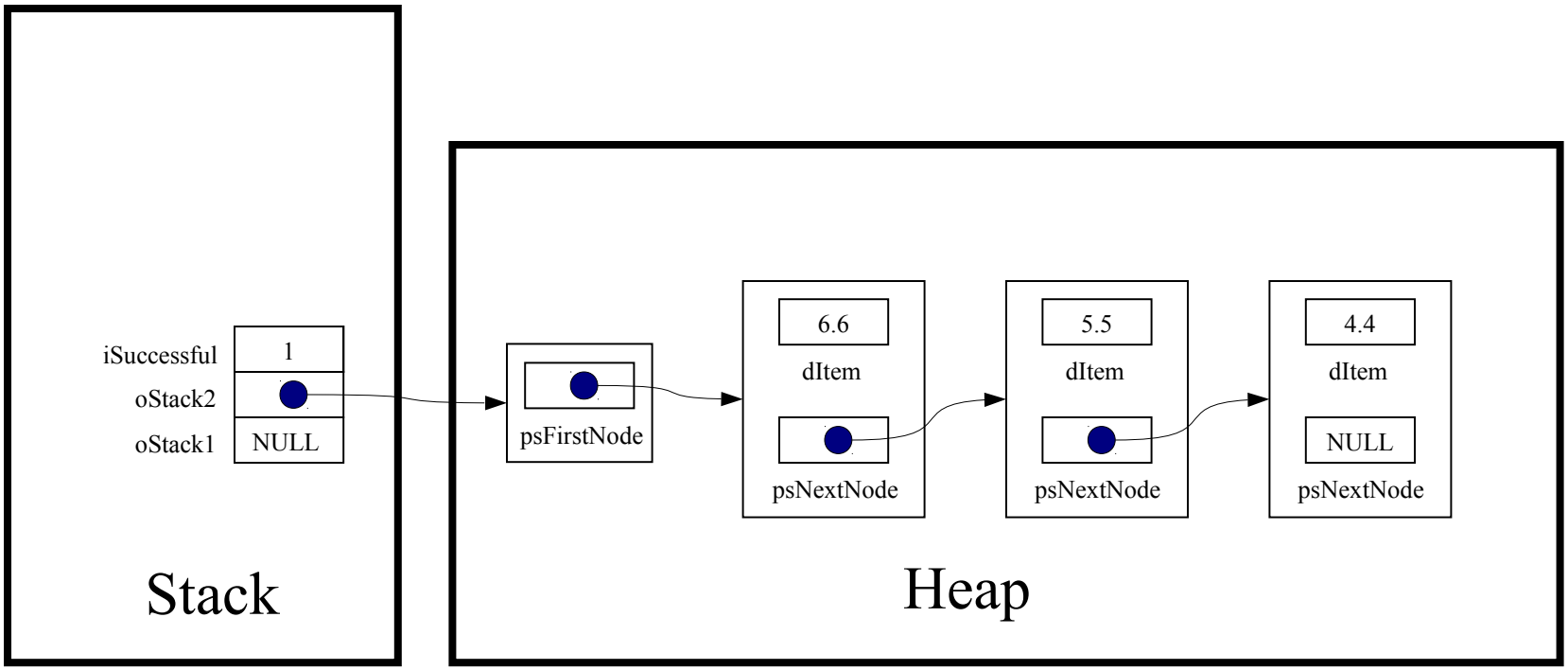
```
return 1;
```



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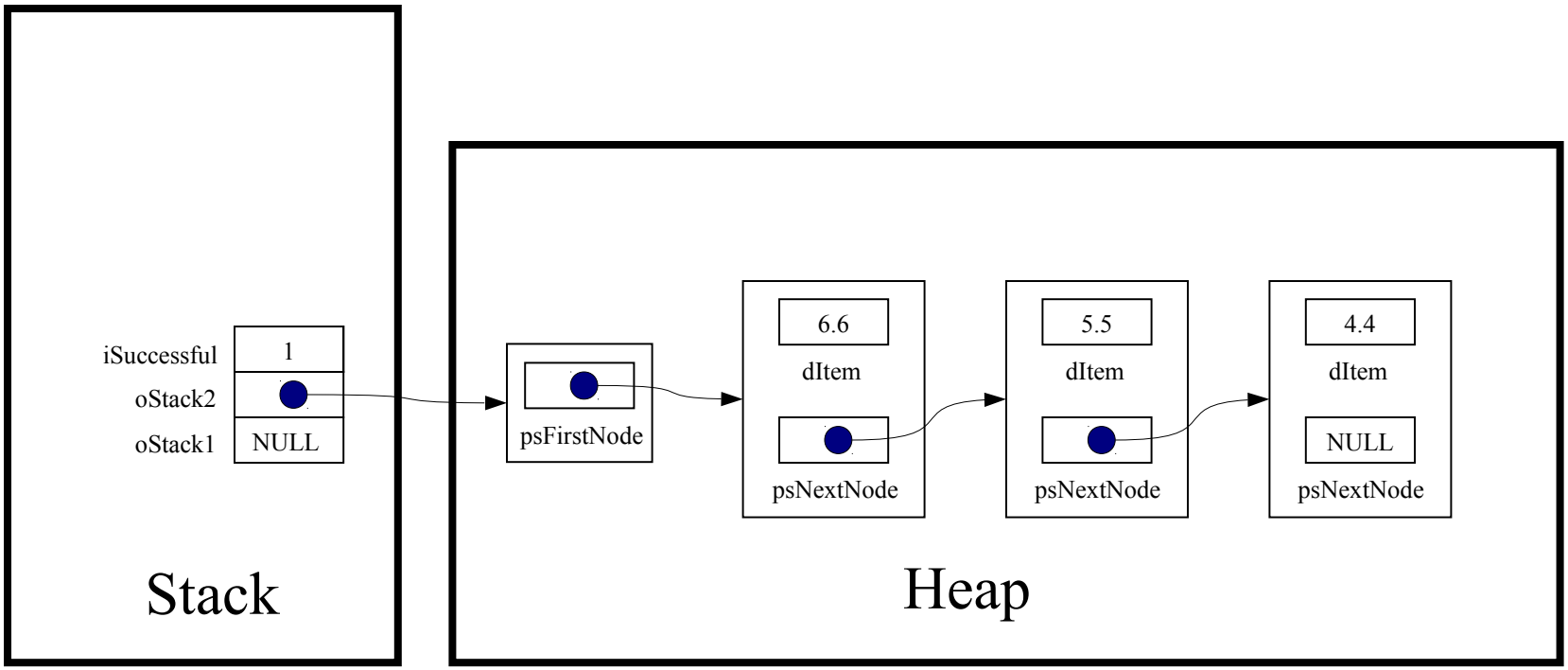
```
iSuccessful = Stack_push(oStack2, 6.6);
```



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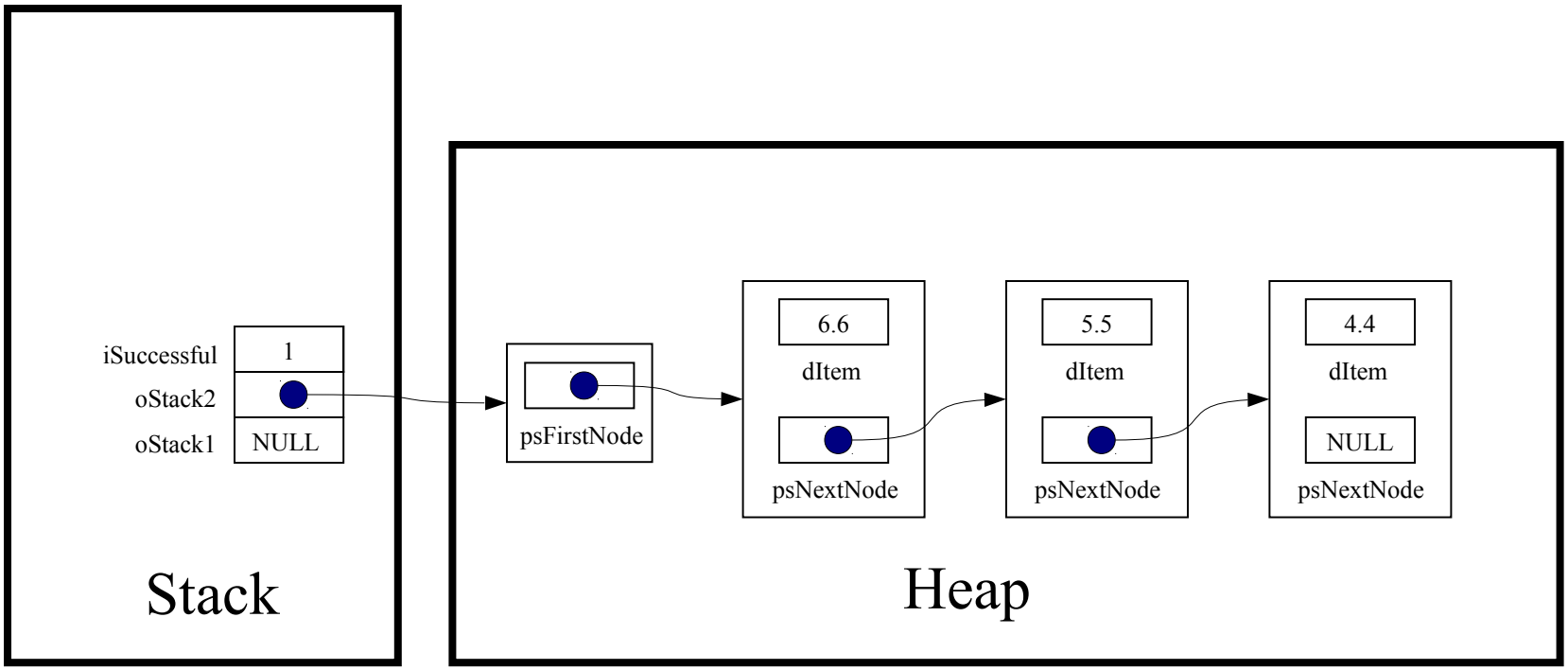
Trace of teststack (Version 4)

```
if (! iSuccessful) handleMemoryError();
```



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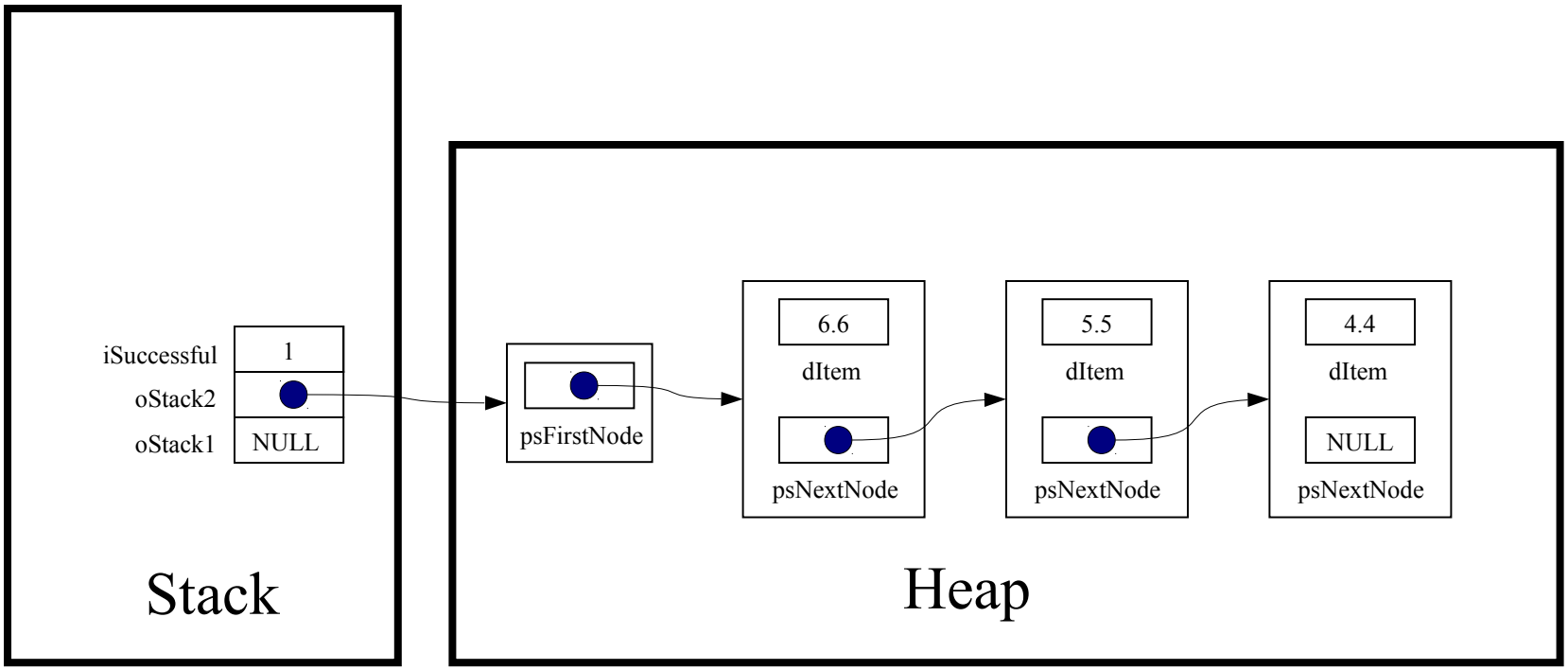
```
while (! Stack_isEmpty(oStack2))
   ...
```



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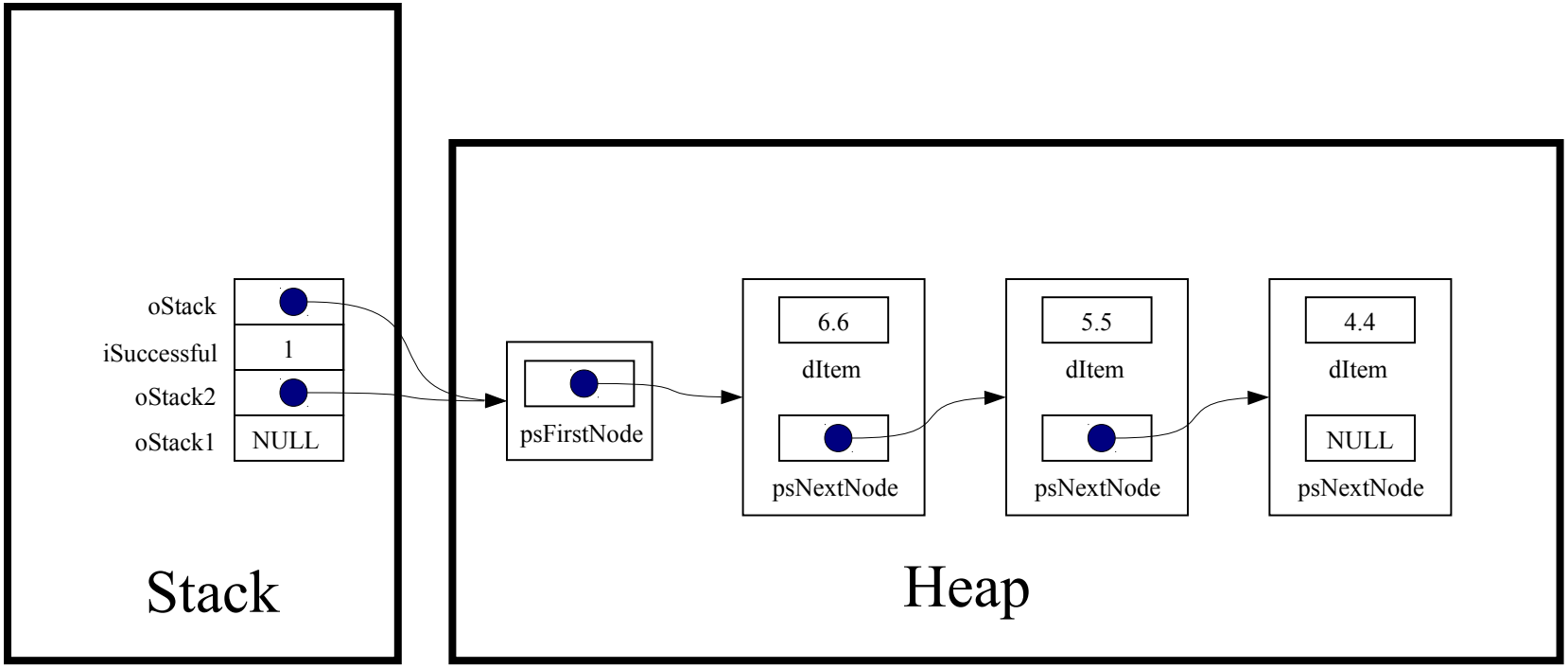
```
int Stack_isEmpty(Stack_T oStack)
```



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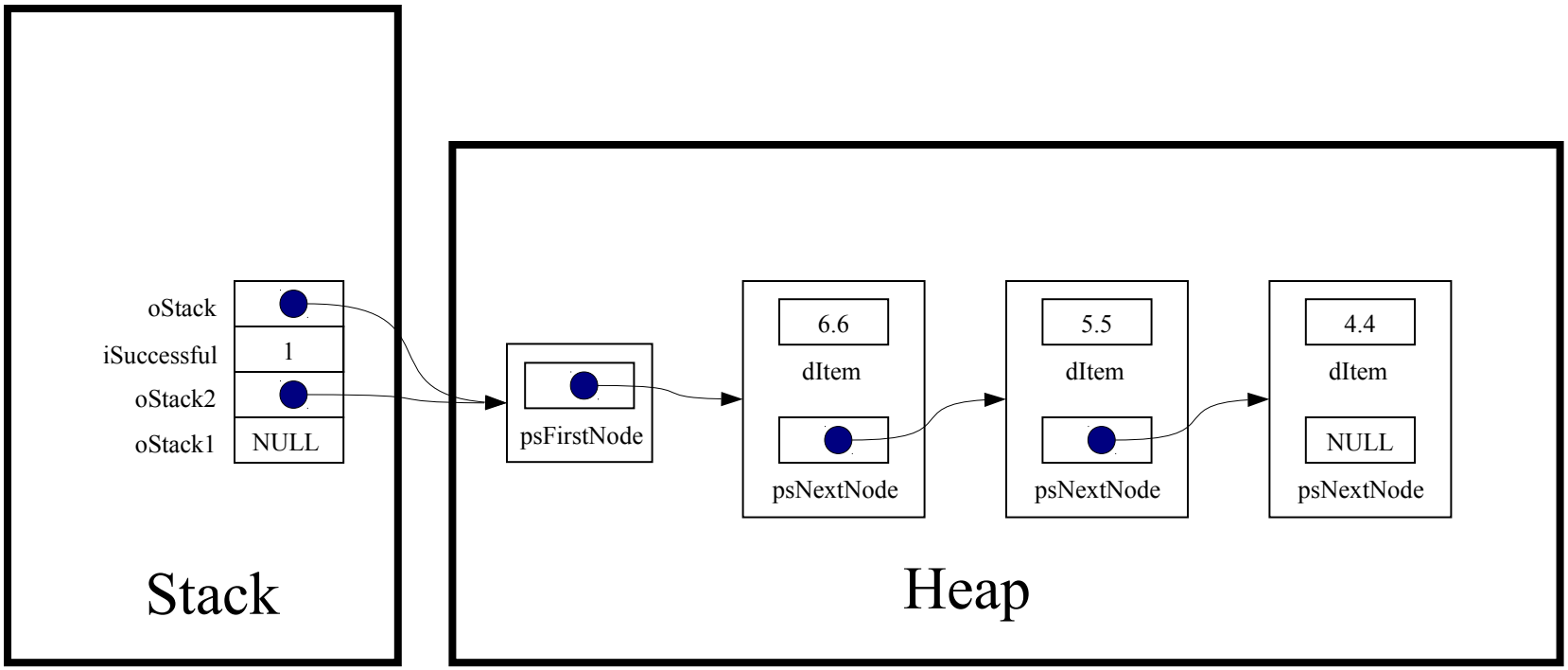
```
assert(oStack != NULL);
```



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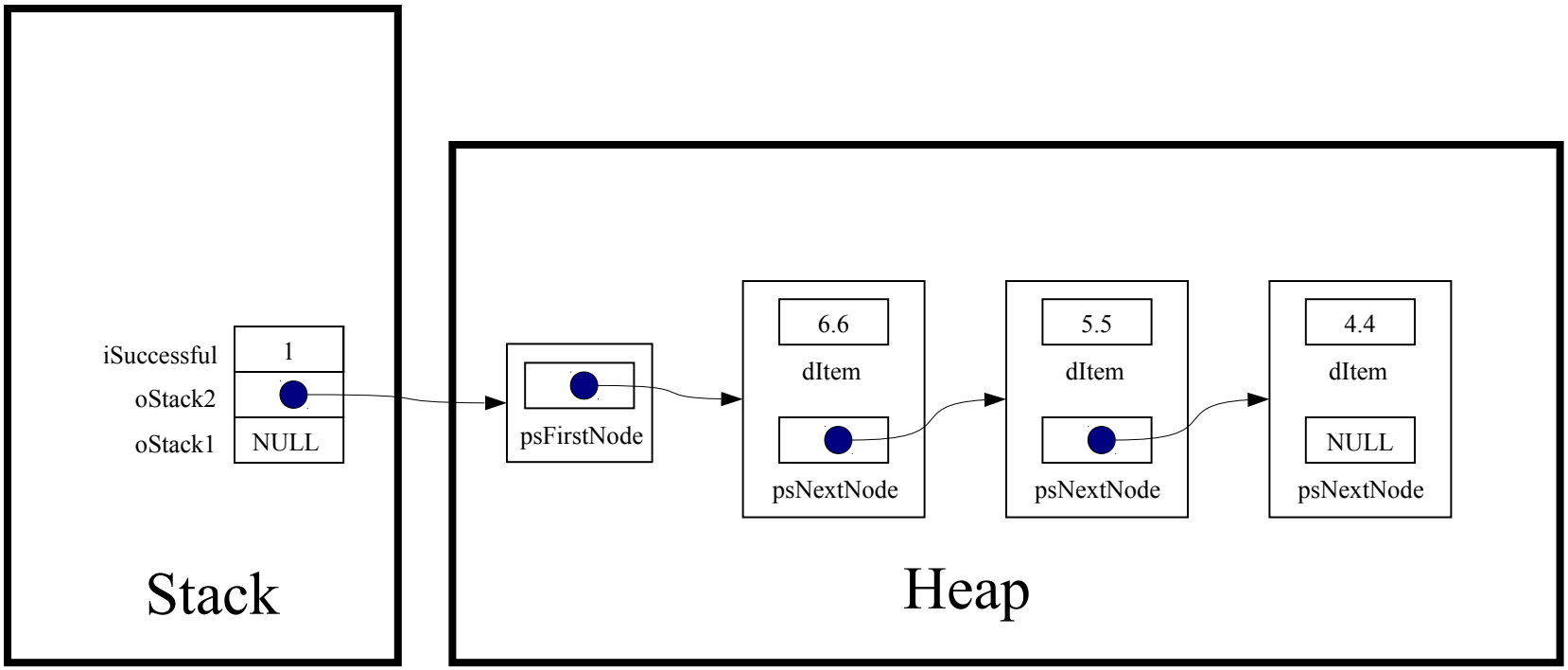
```
return oStack->psFirstNode == NULL;
```



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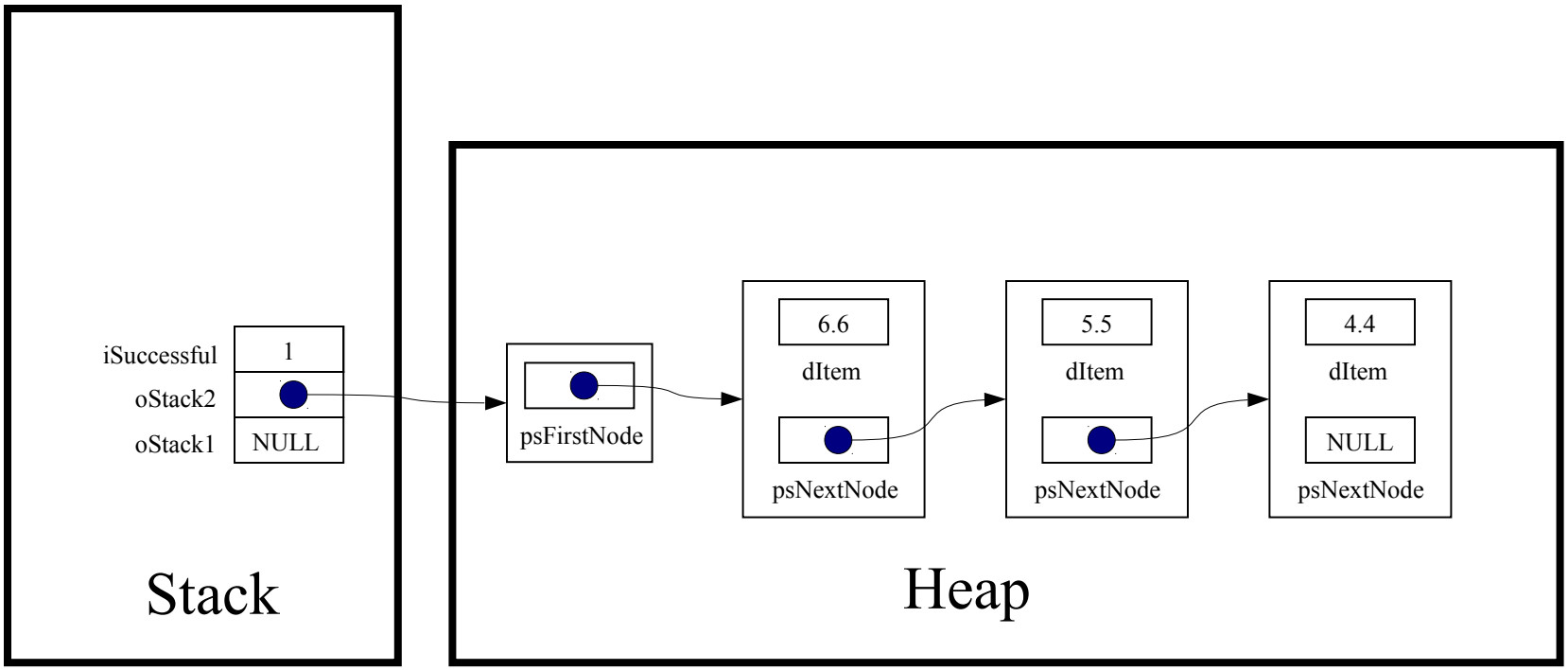
Trace of teststack (Version 4)

```
while (! Stack_isEmpty(oStack2))
   ...
```



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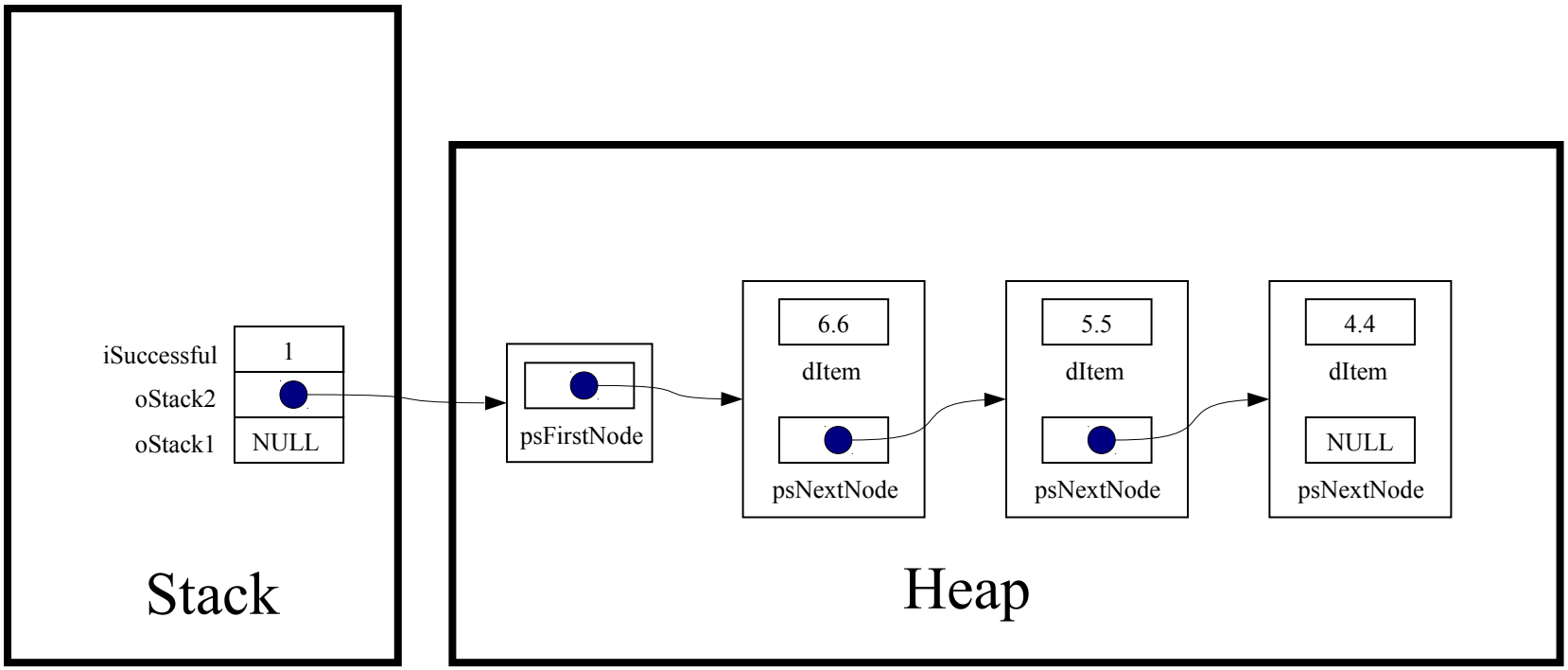
```
printf("%g\n", Stack_pop(oStack2));
```



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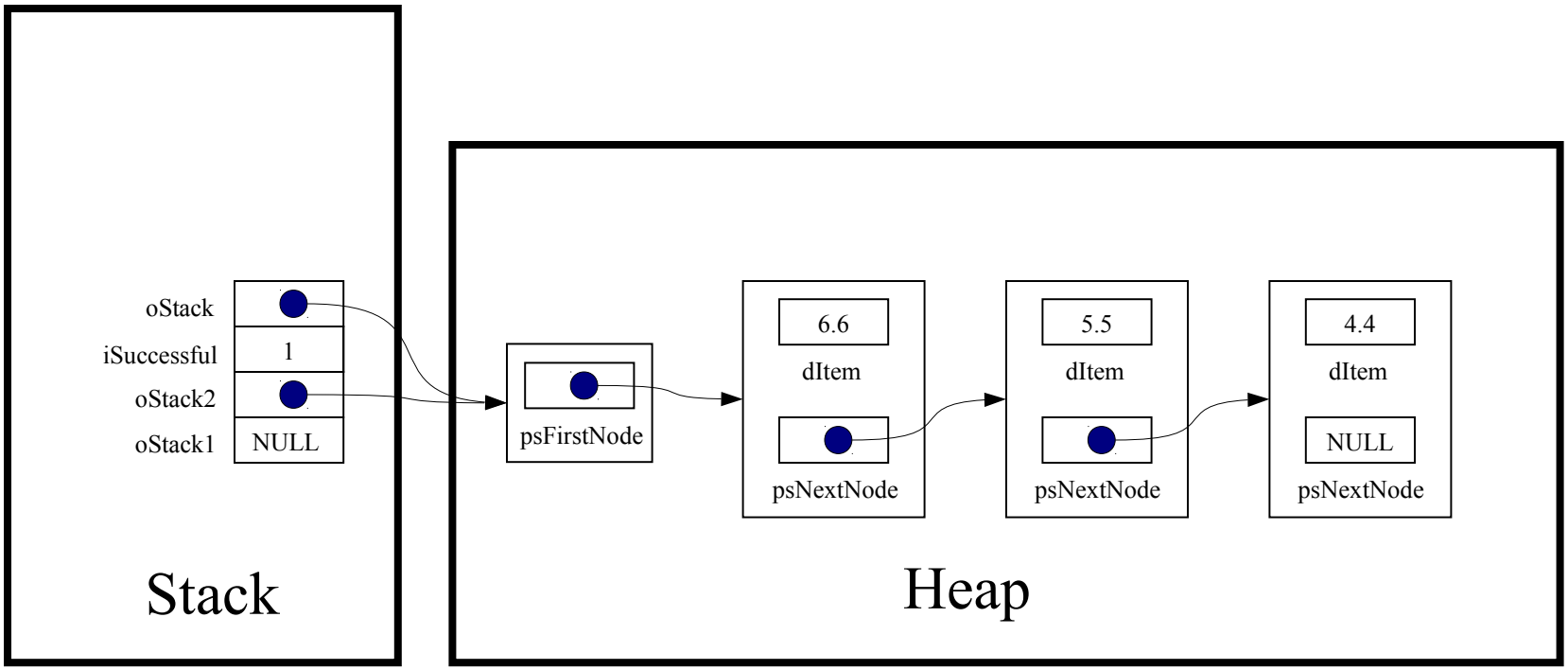
```
double Stack_pop(Stack_T oStack)
```



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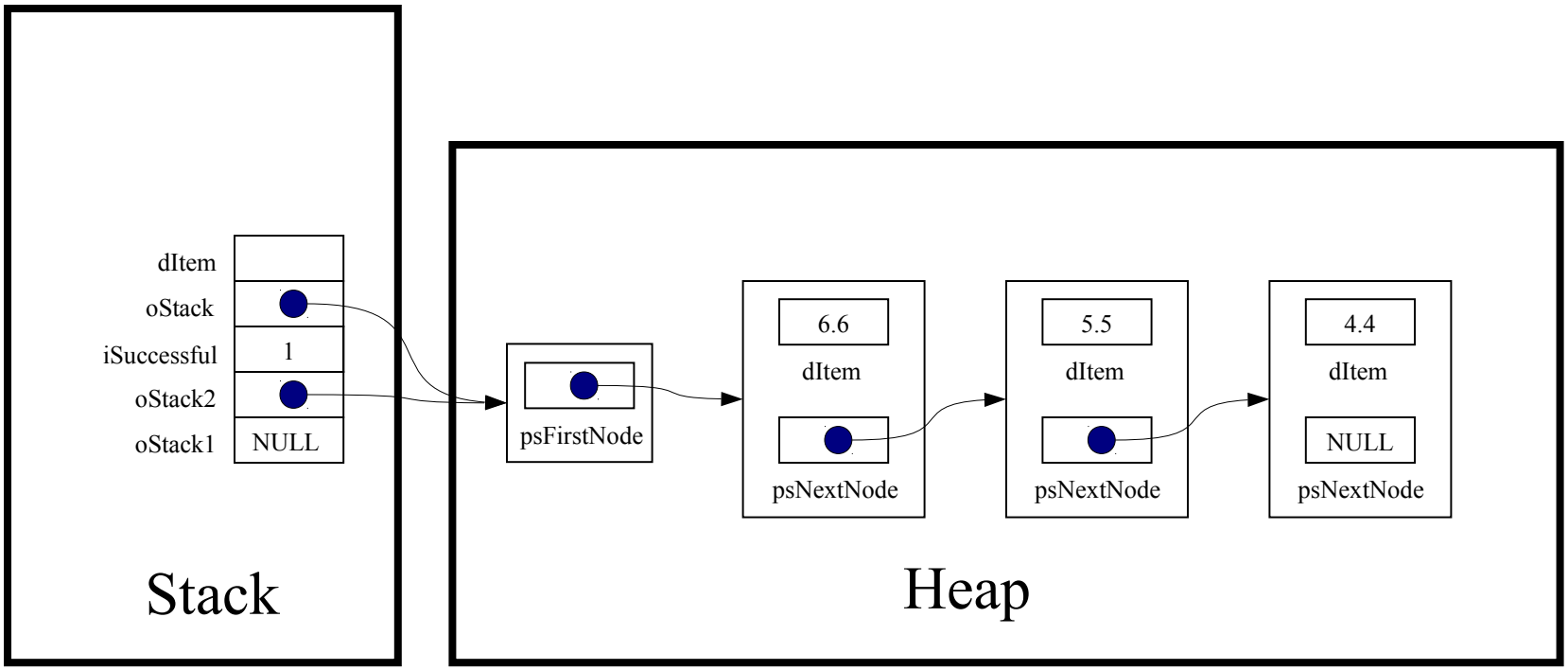
```
double dItem;
```



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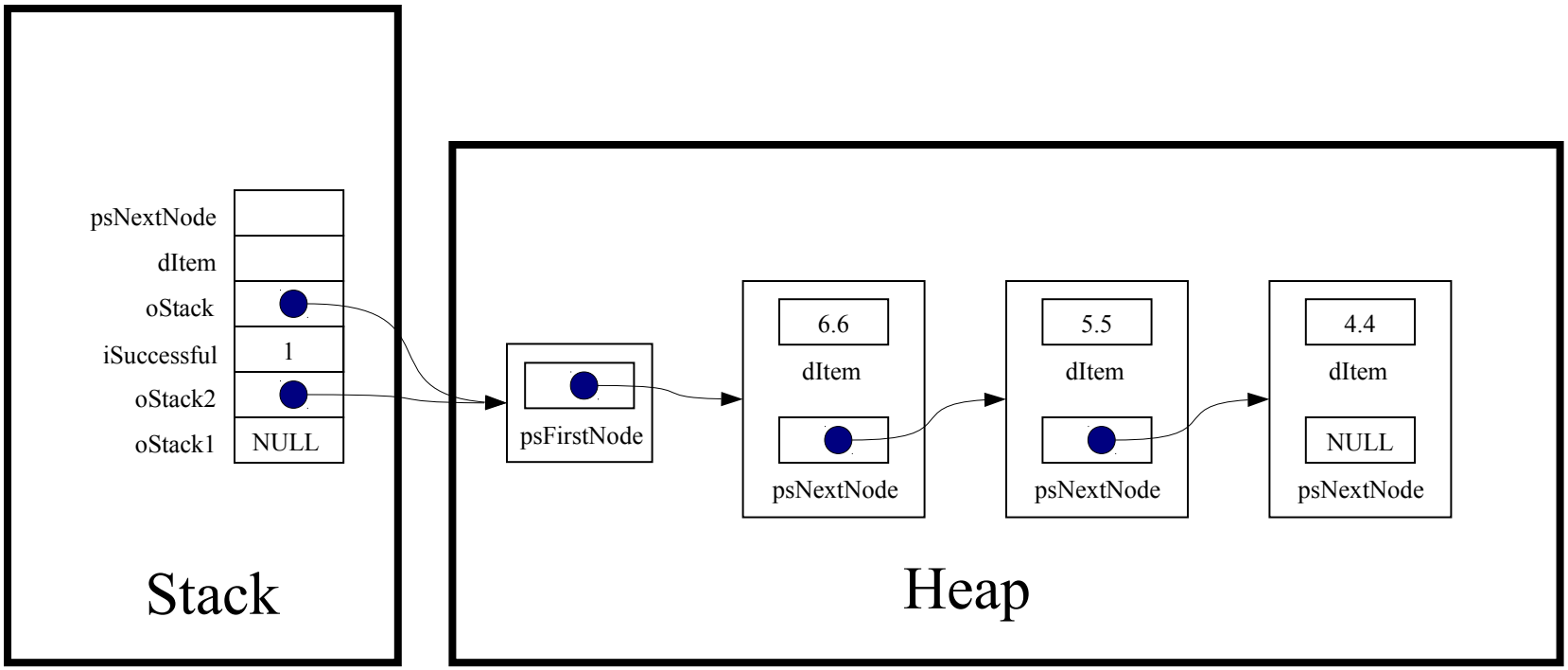
```
struct StackNode *psNextNode;
```



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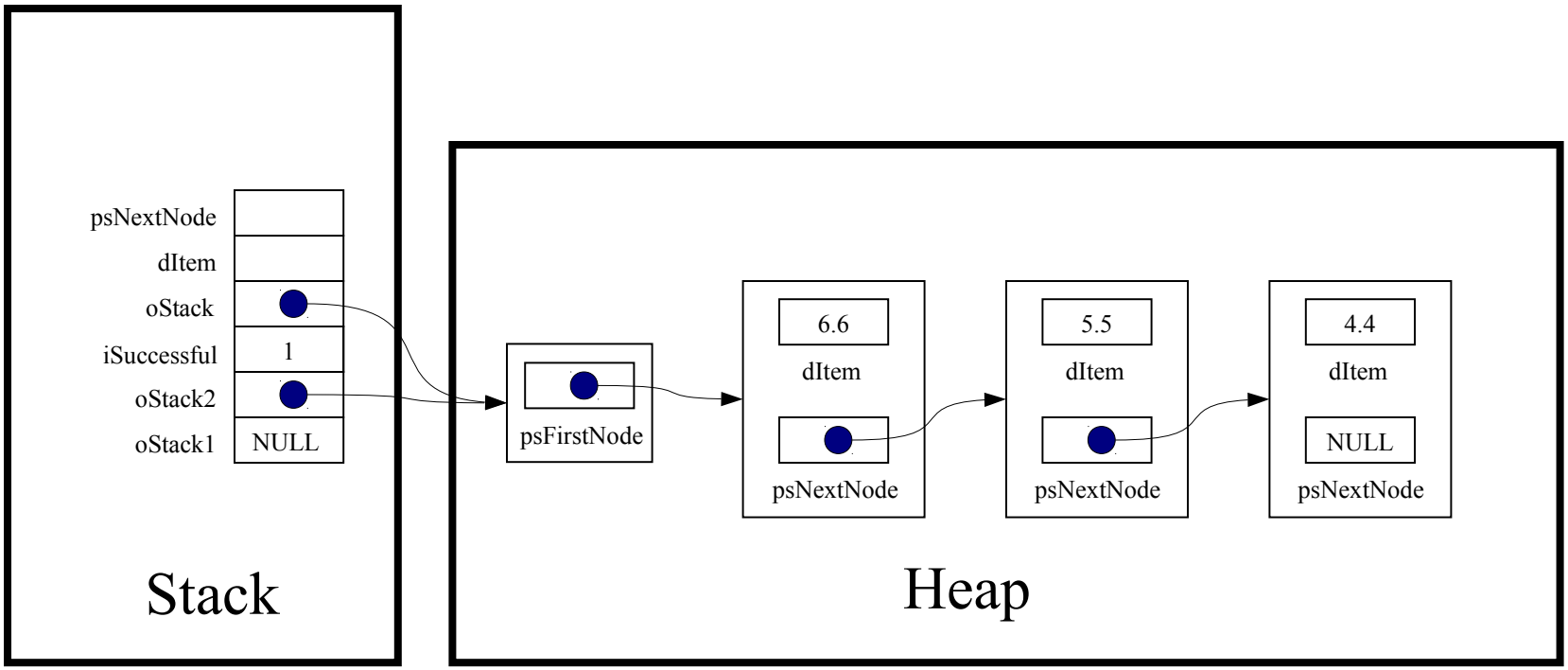
Trace of teststack (Version 4)

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



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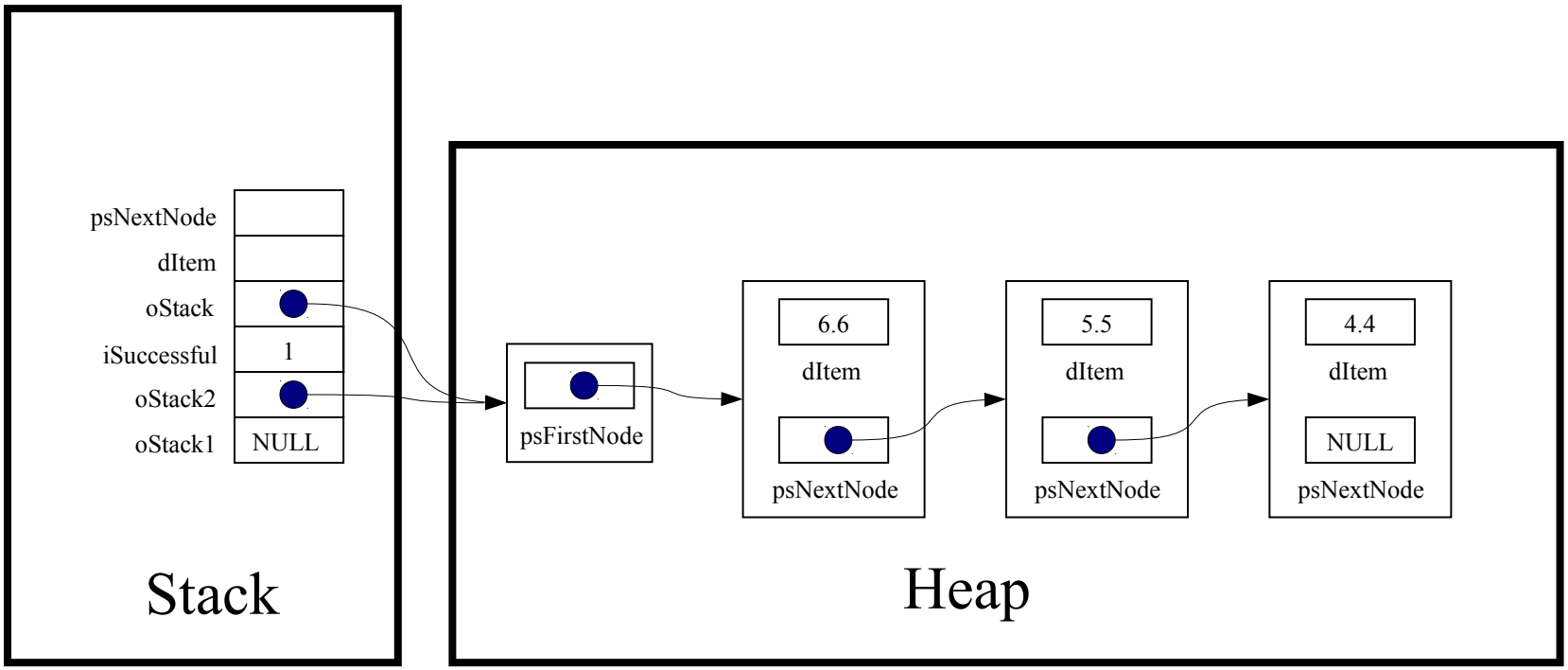
```
assert(oStack->psFirstNode != NULL);
```



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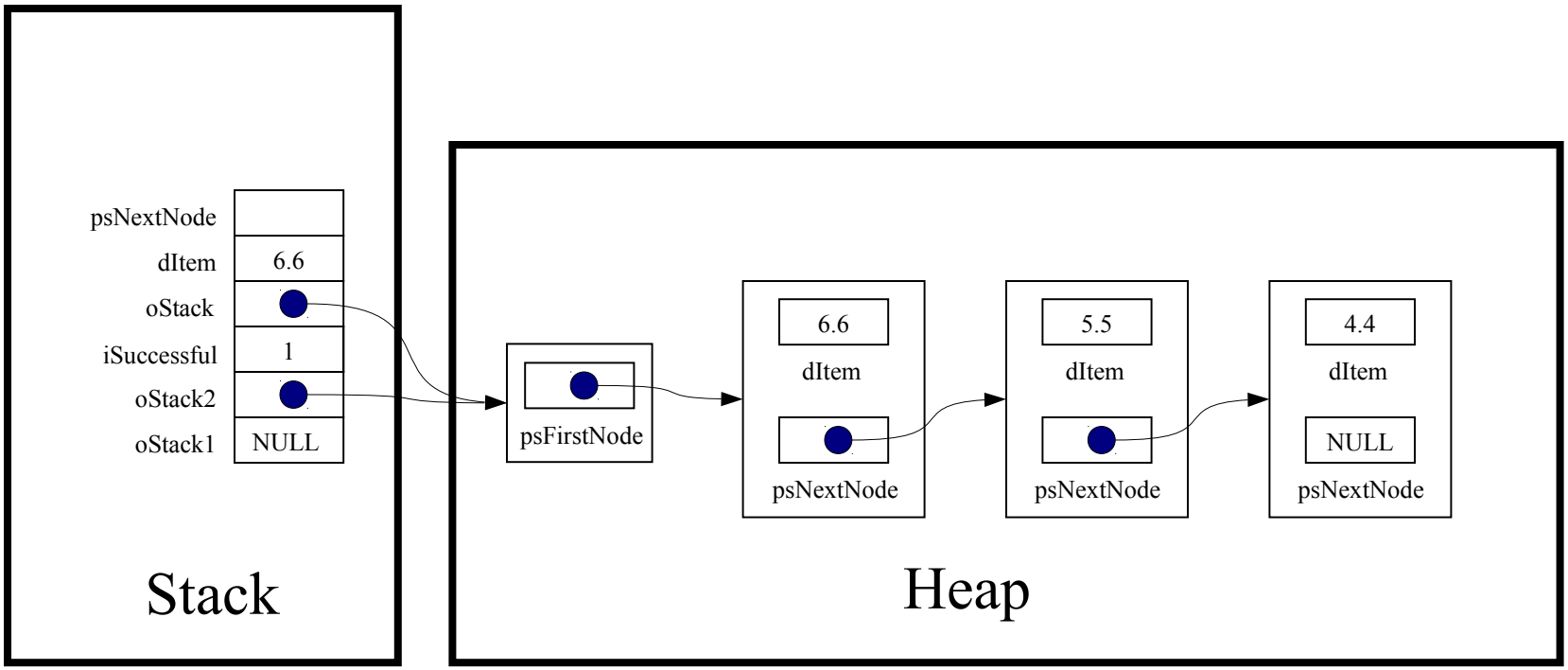
```
dItem = oStack->psFirstNode->dItem;
```



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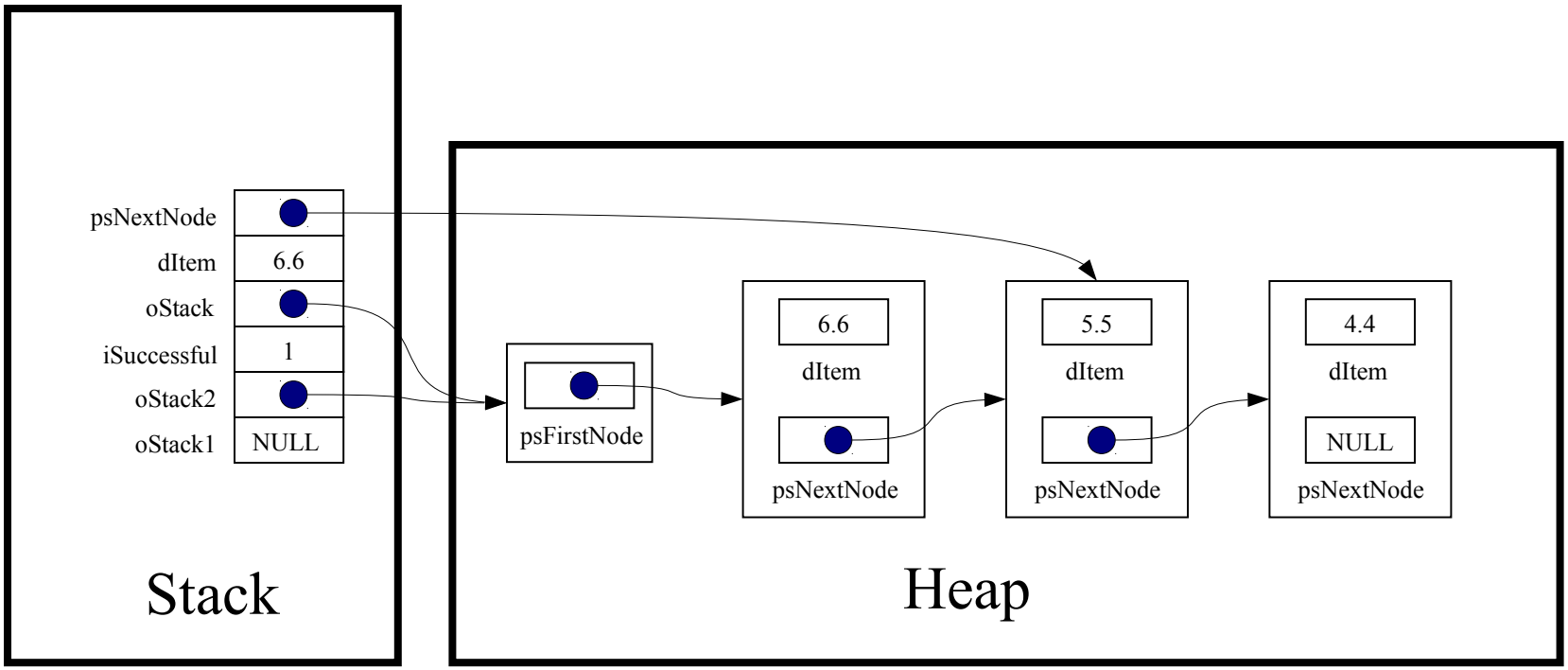
```
psNextNode = oStack→psFirstNode->psNextNode
```



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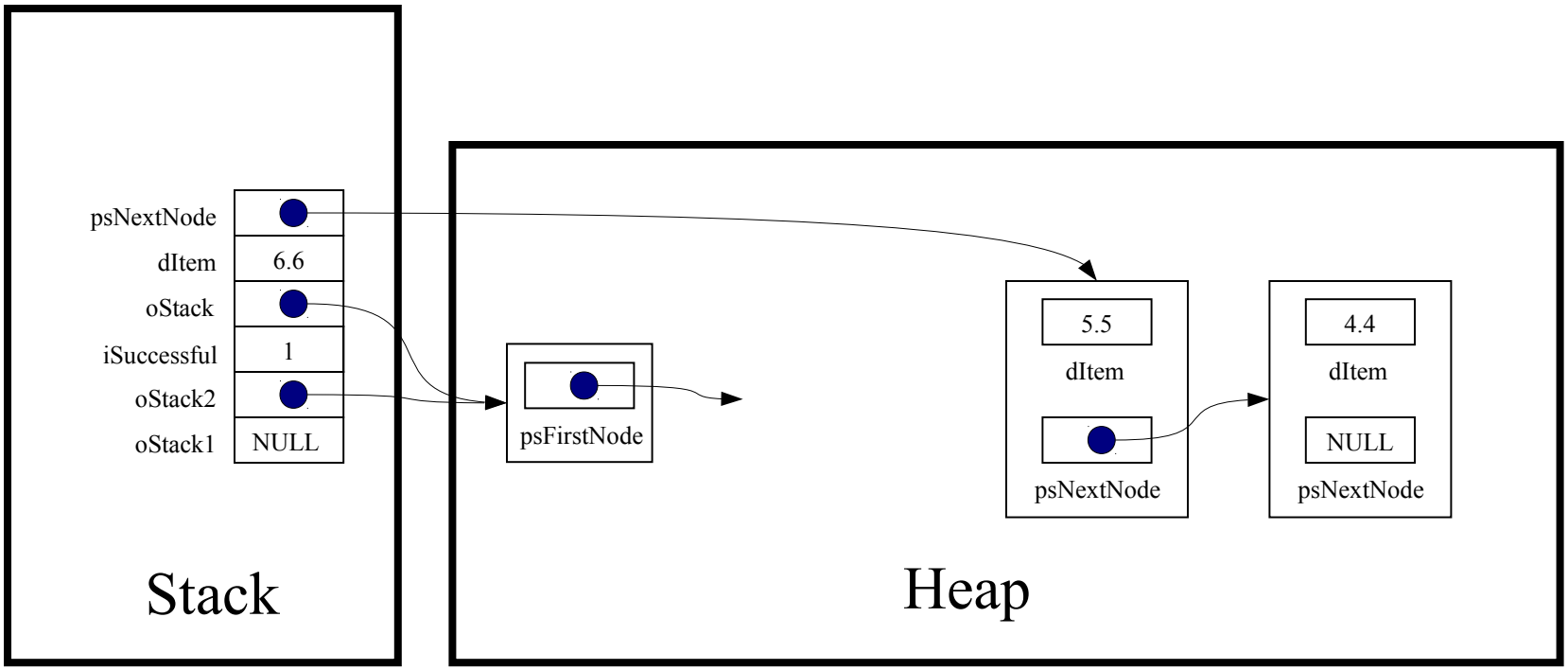
```
free(oStack->psFirstNode);
```



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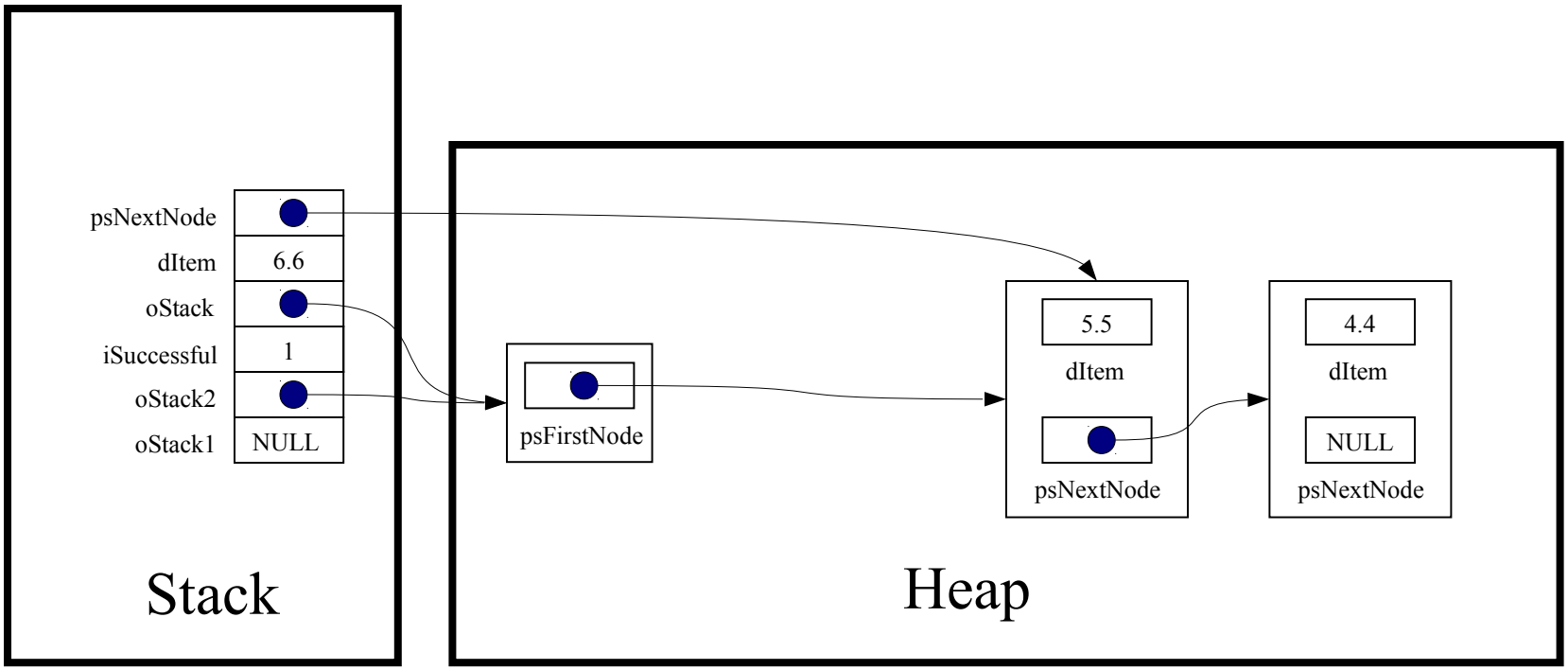
Trace of teststack (Version 4)

```
oStack->psFirstNode = psNextNode;
```



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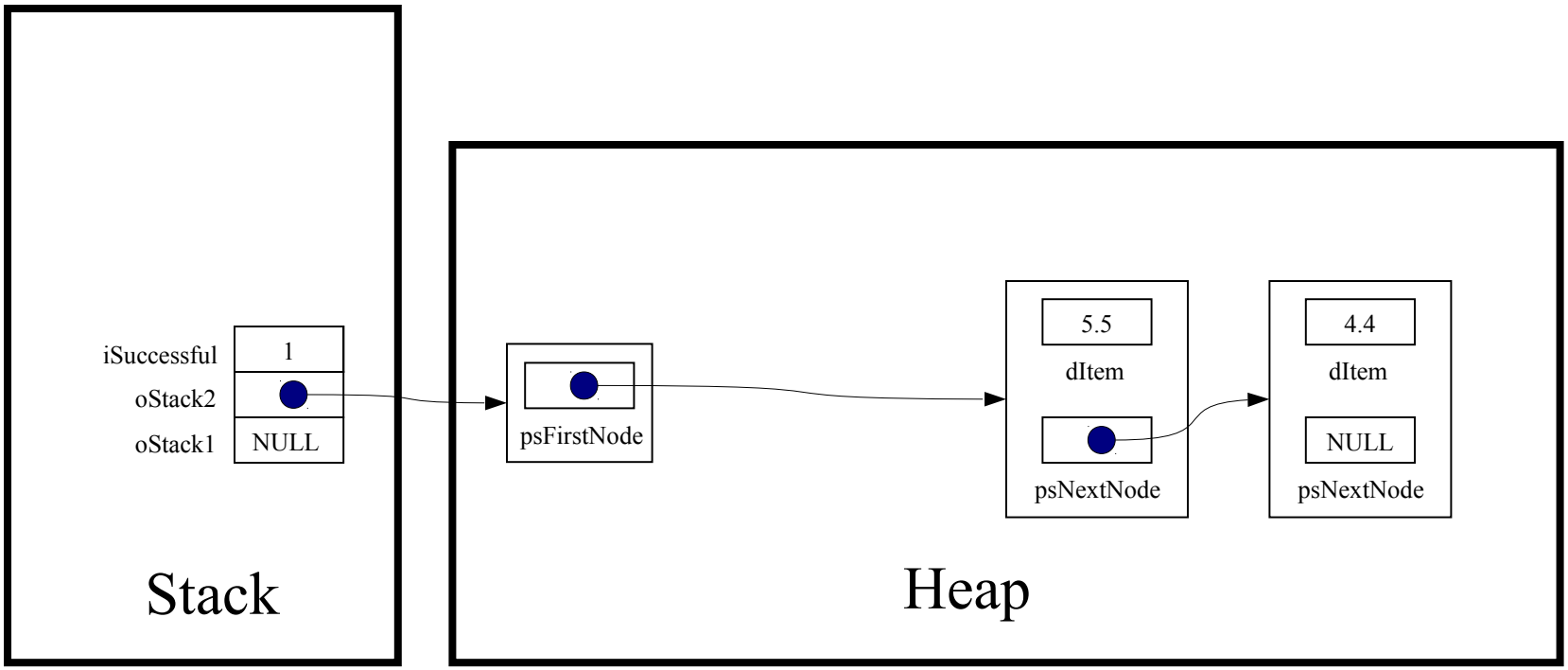
```
return dItem;
```



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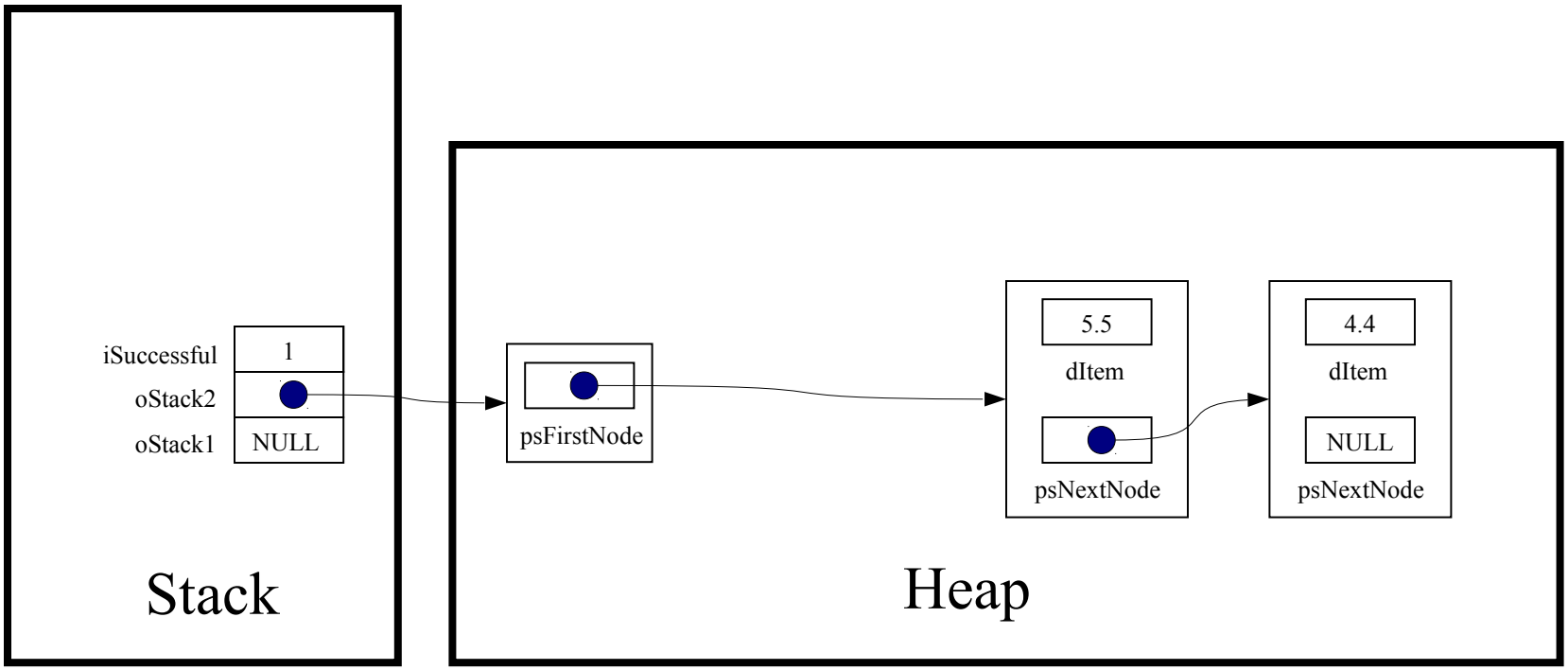
```
printf("%g\n", Stack_pop(oStack2));
```



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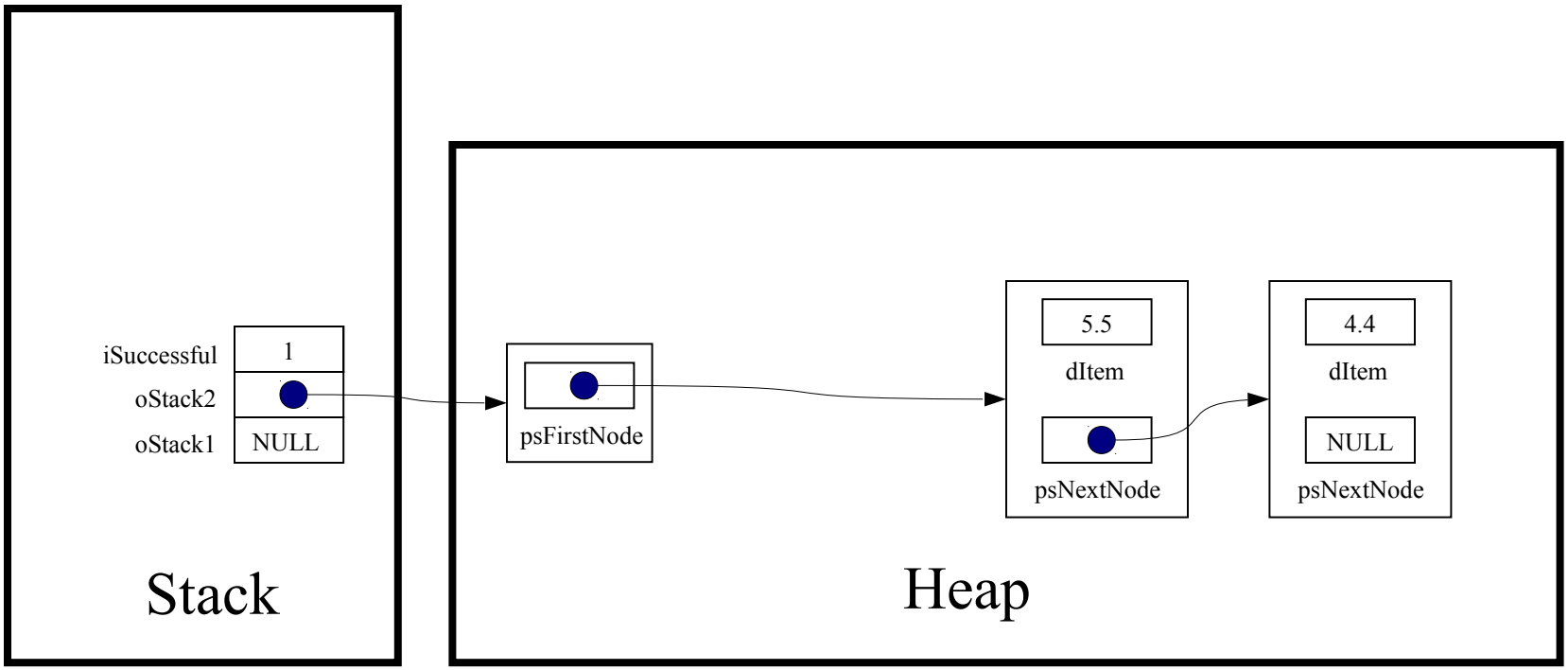
Trace of teststack (Version 4)

```
while (! Stack_isEmpty(oStack2))
   ...
```



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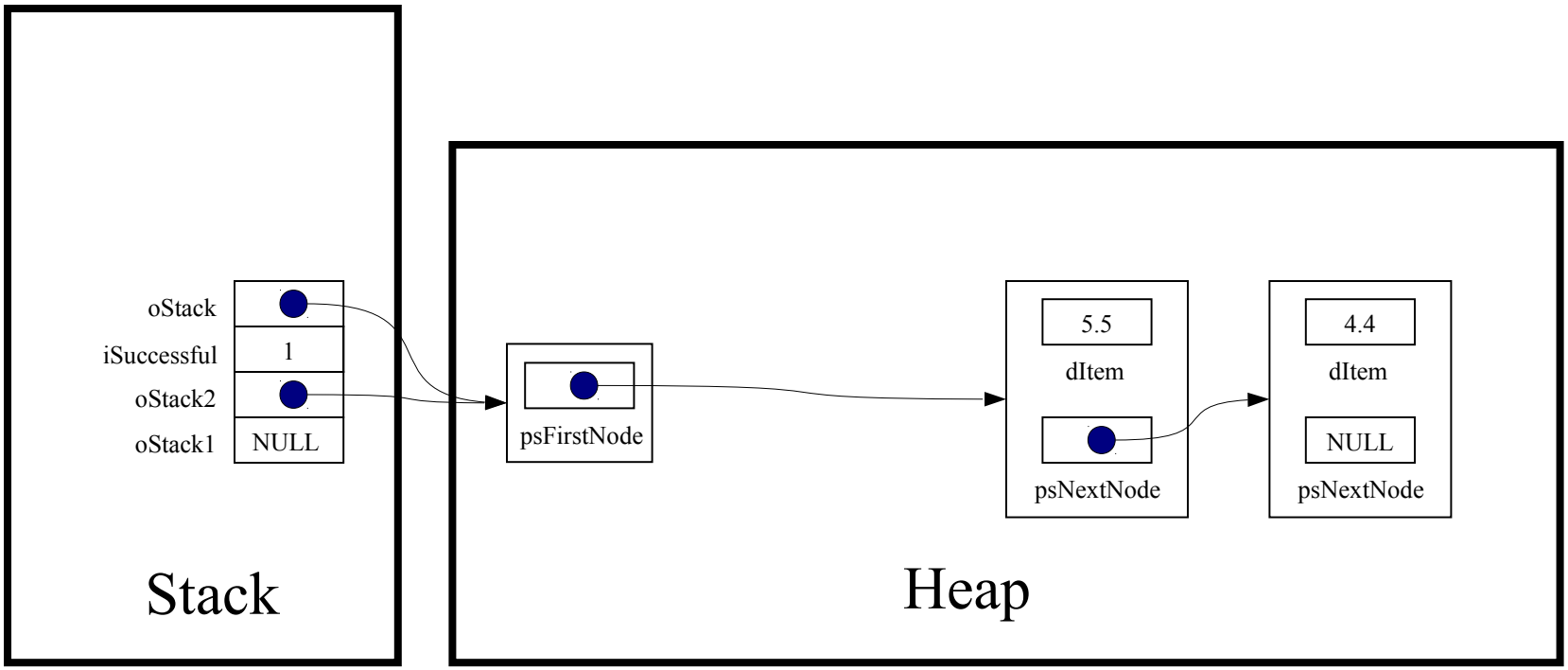
```
int Stack_isEmpty(Stack_T oStack)
```



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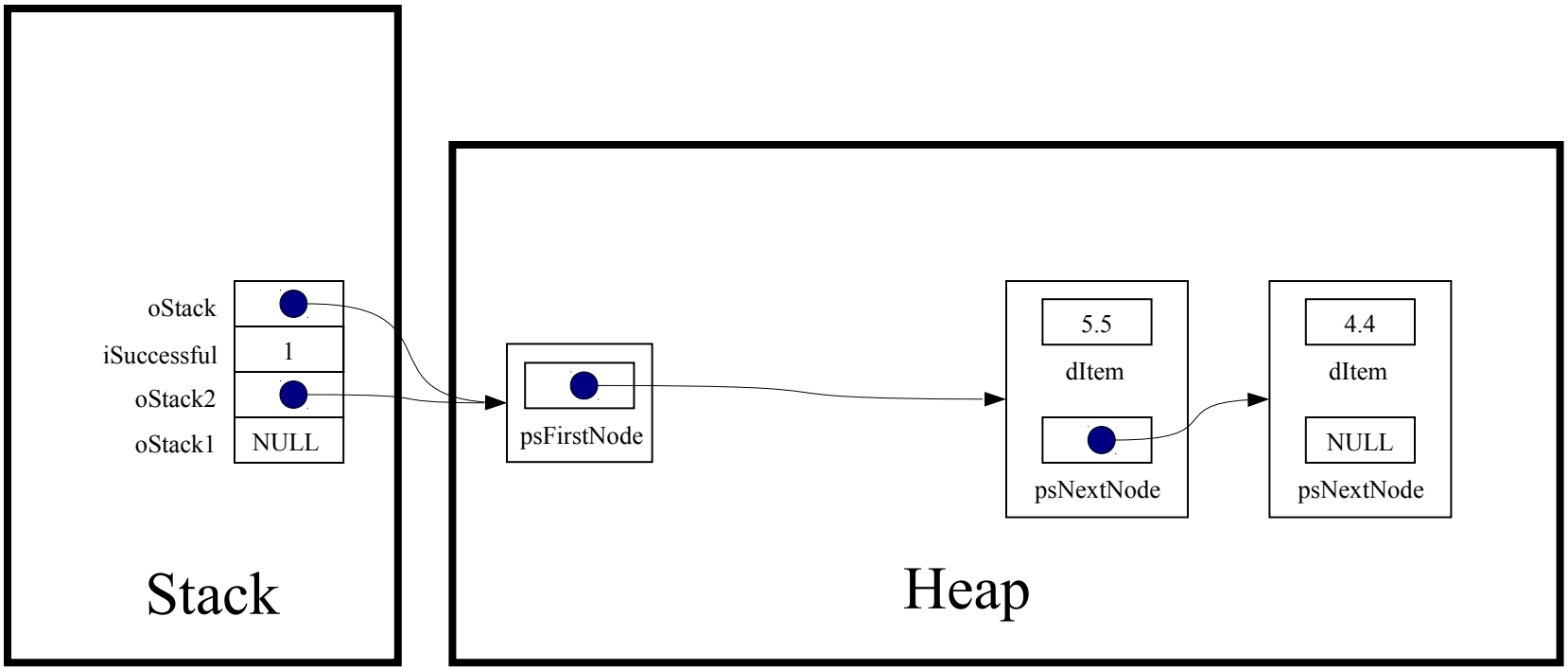
```
assert(oStack != NULL);
```



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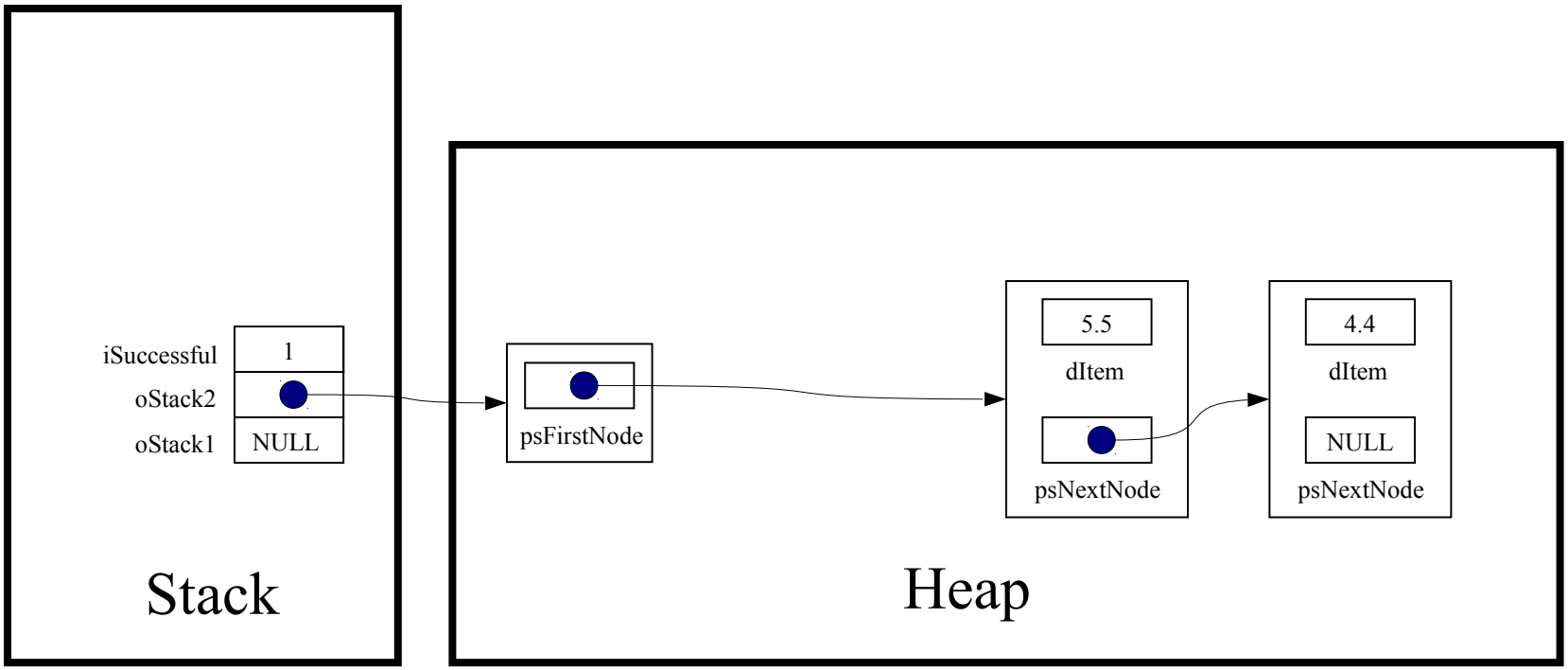
```
return oStack->psFirstNode == NULL;
```



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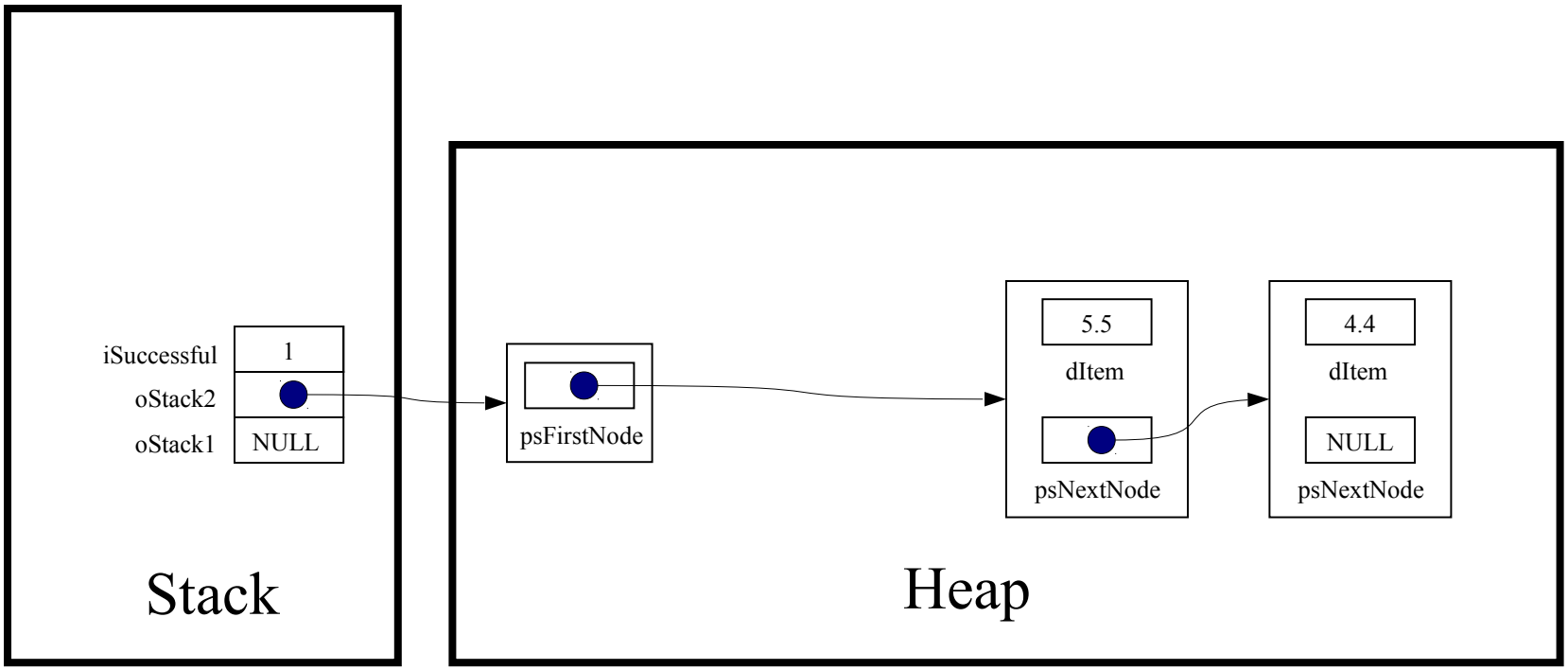
Trace of teststack (Version 4)

```
while (! Stack_isEmpty(oStack2))
   ...
```



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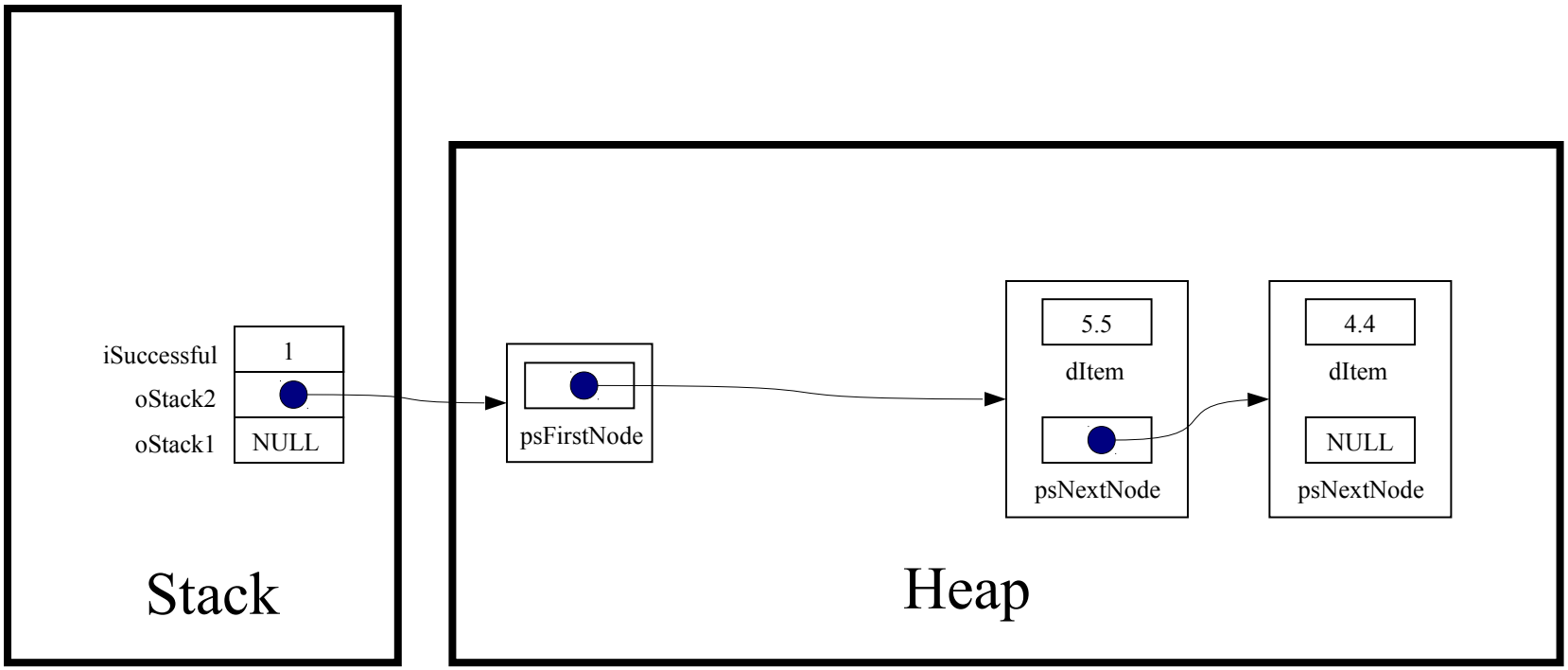
Trace of teststack (Version 4)

```
printf("%g\n", Stack_pop(oStack2));
```



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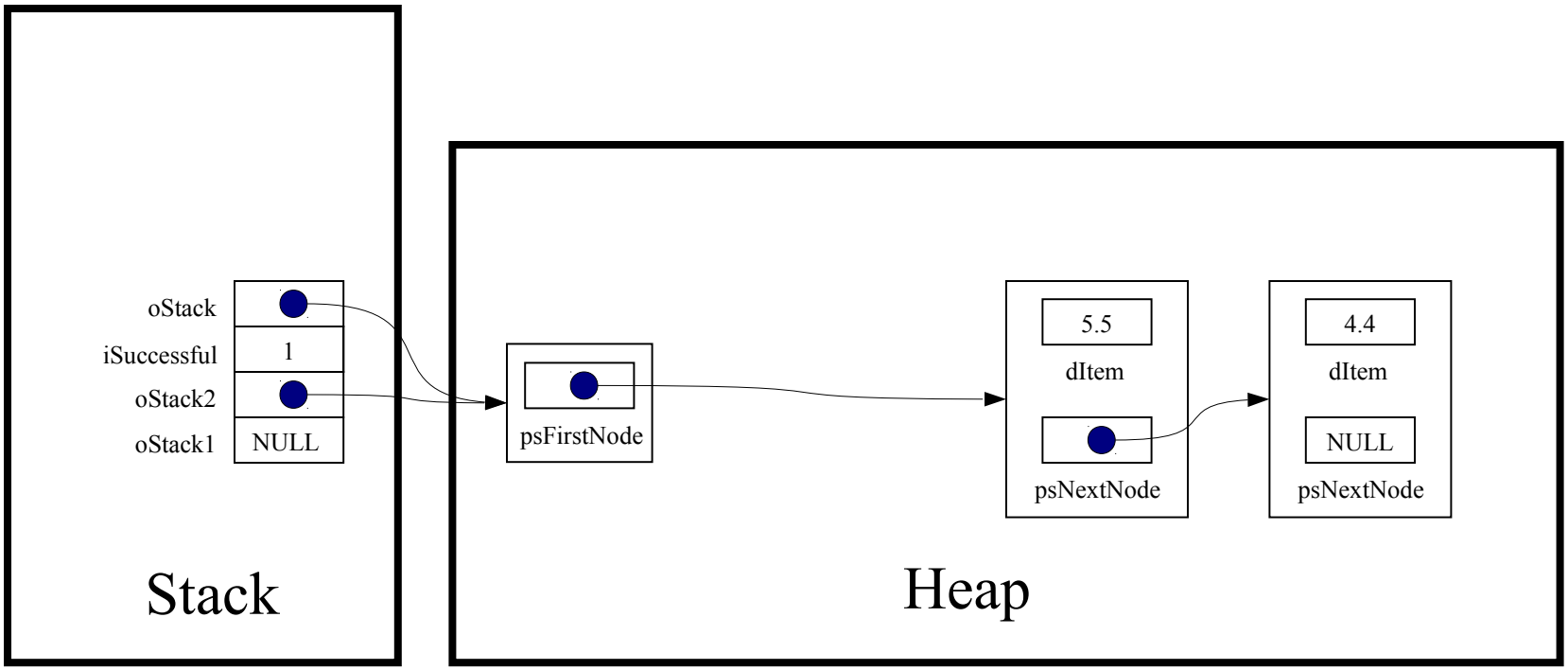
Trace of teststack (Version 4)

```
double Stack_pop(Stack_T oStack)
```



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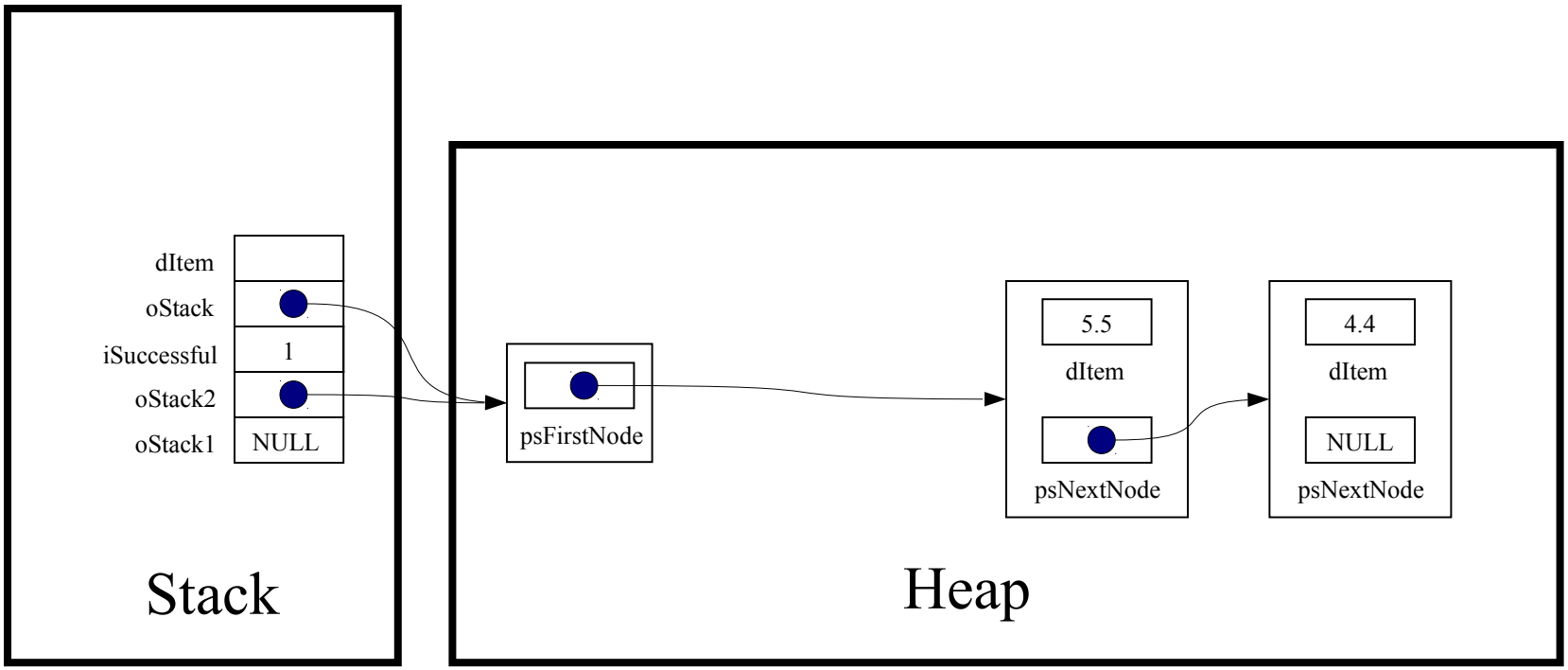
Trace of teststack (Version 4)

```
double dItem;
```



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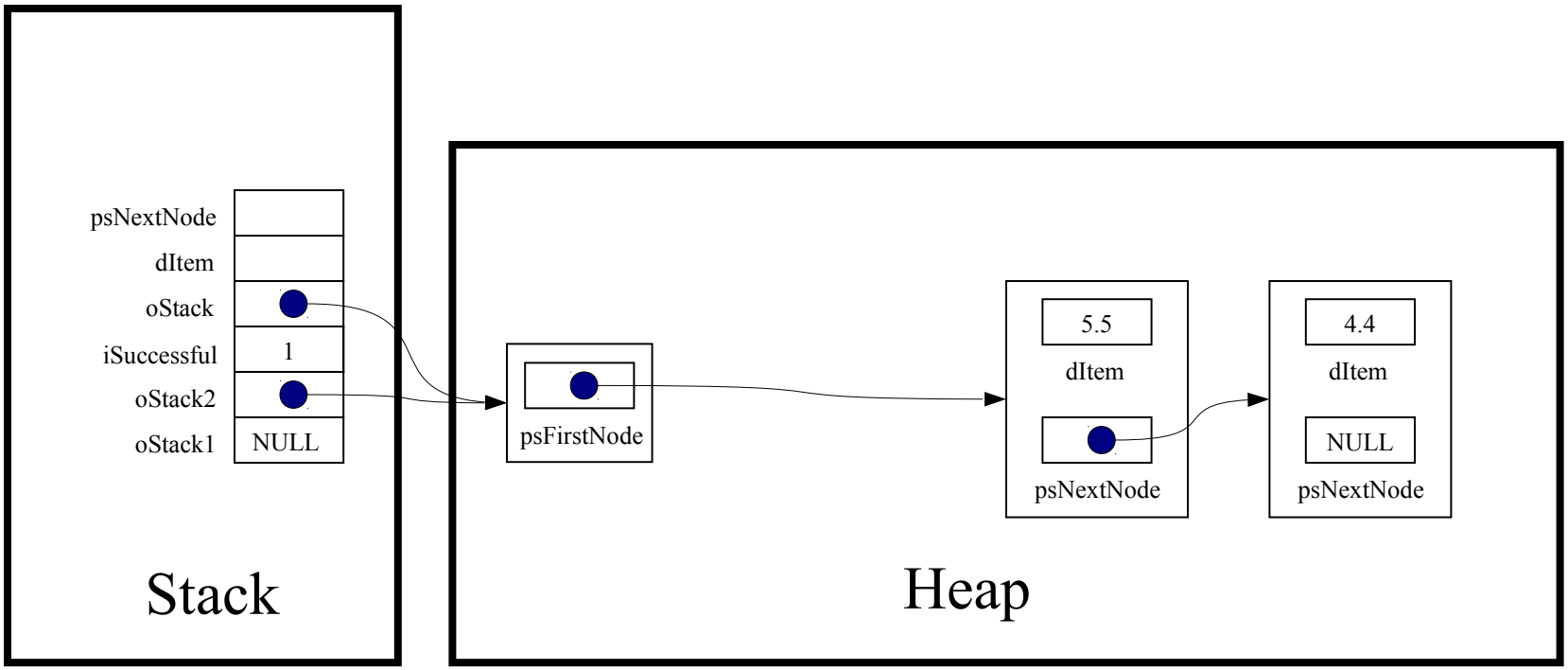
Trace of teststack (Version 4)

```
struct StackNode *psNextNode;
```



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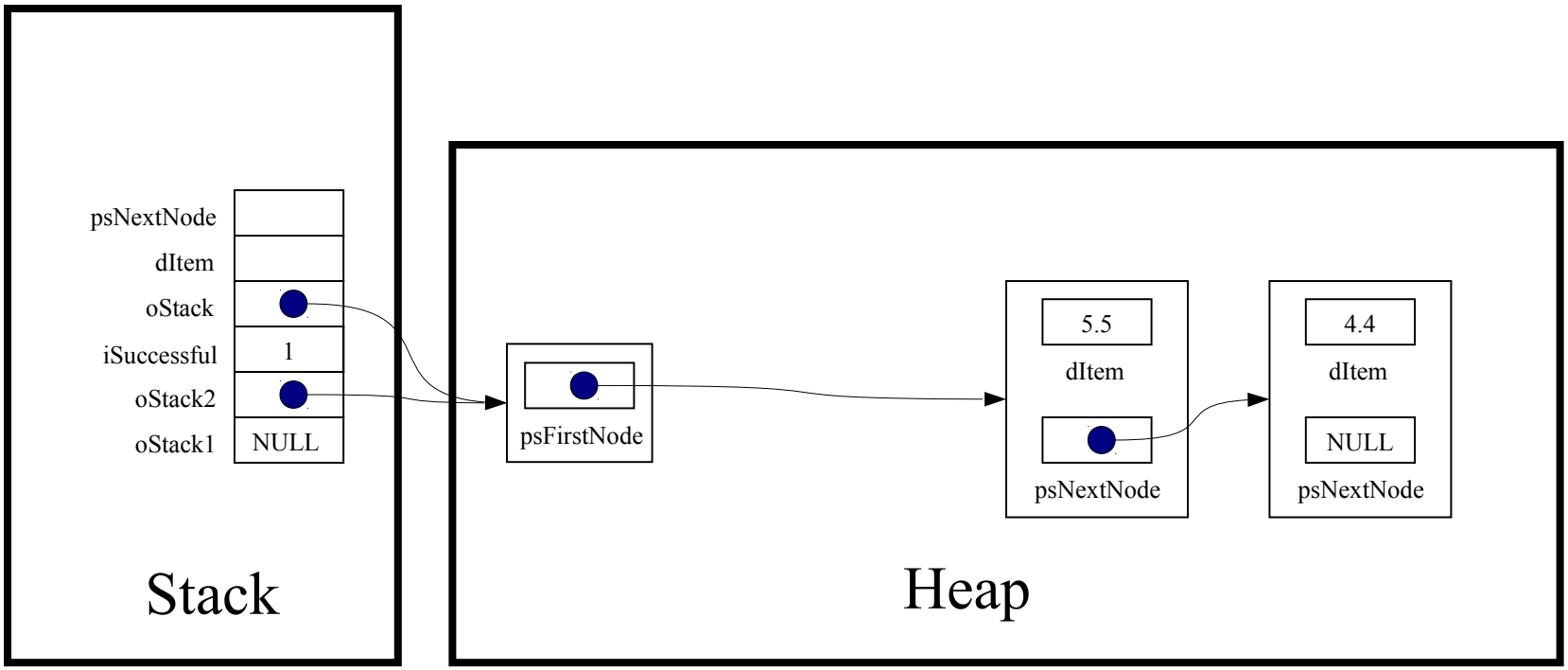
Trace of teststack (Version 4)

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



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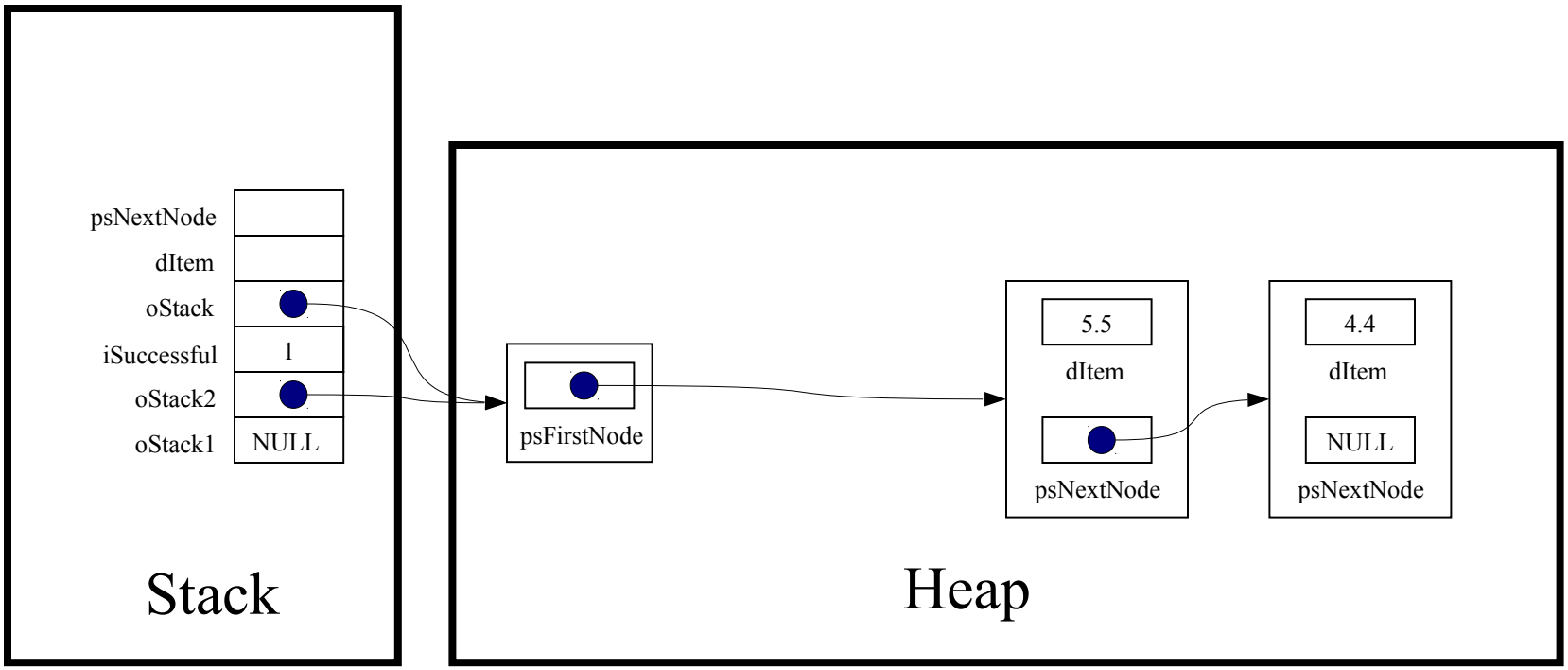
Trace of teststack (Version 4)

```
assert(oStack->psFirstNode != NULL);
```



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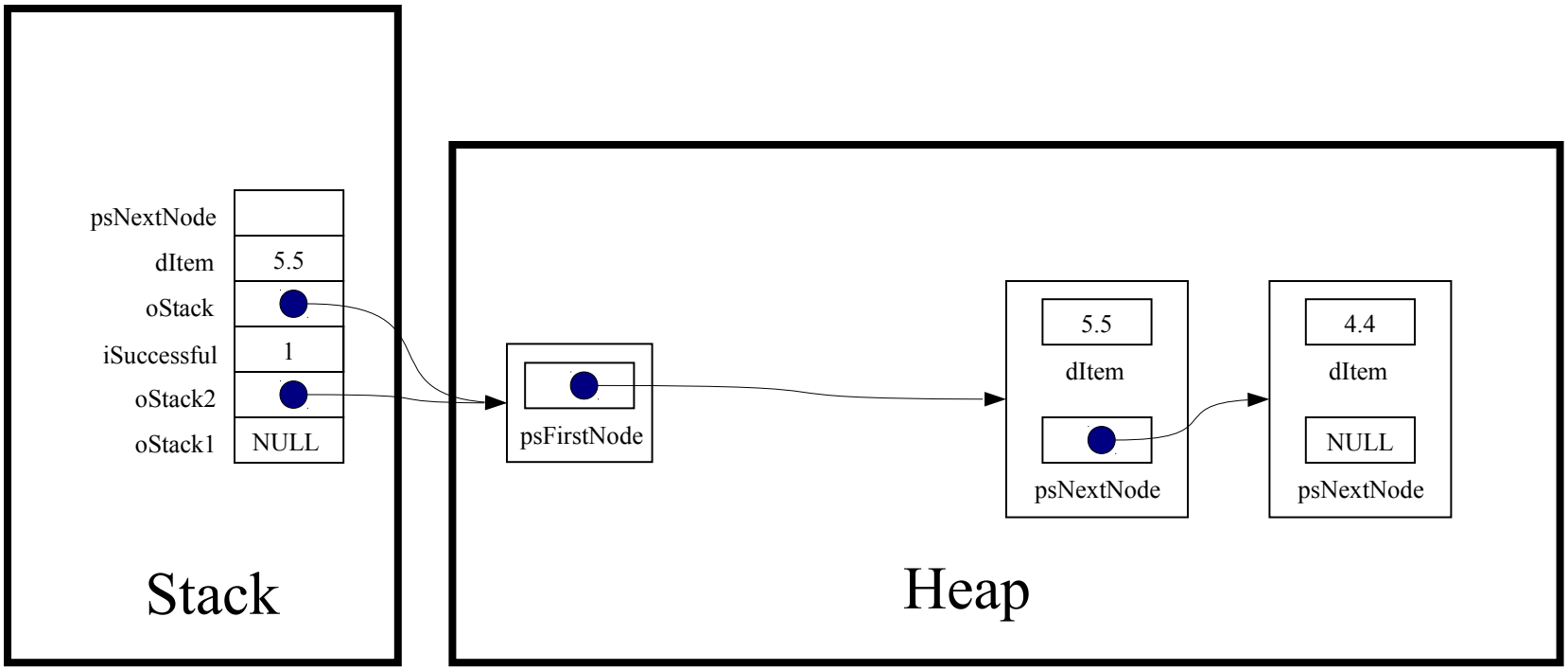
Trace of teststack (Version 4)

```
dItem = oStack->psFirstNode->dItem;
```



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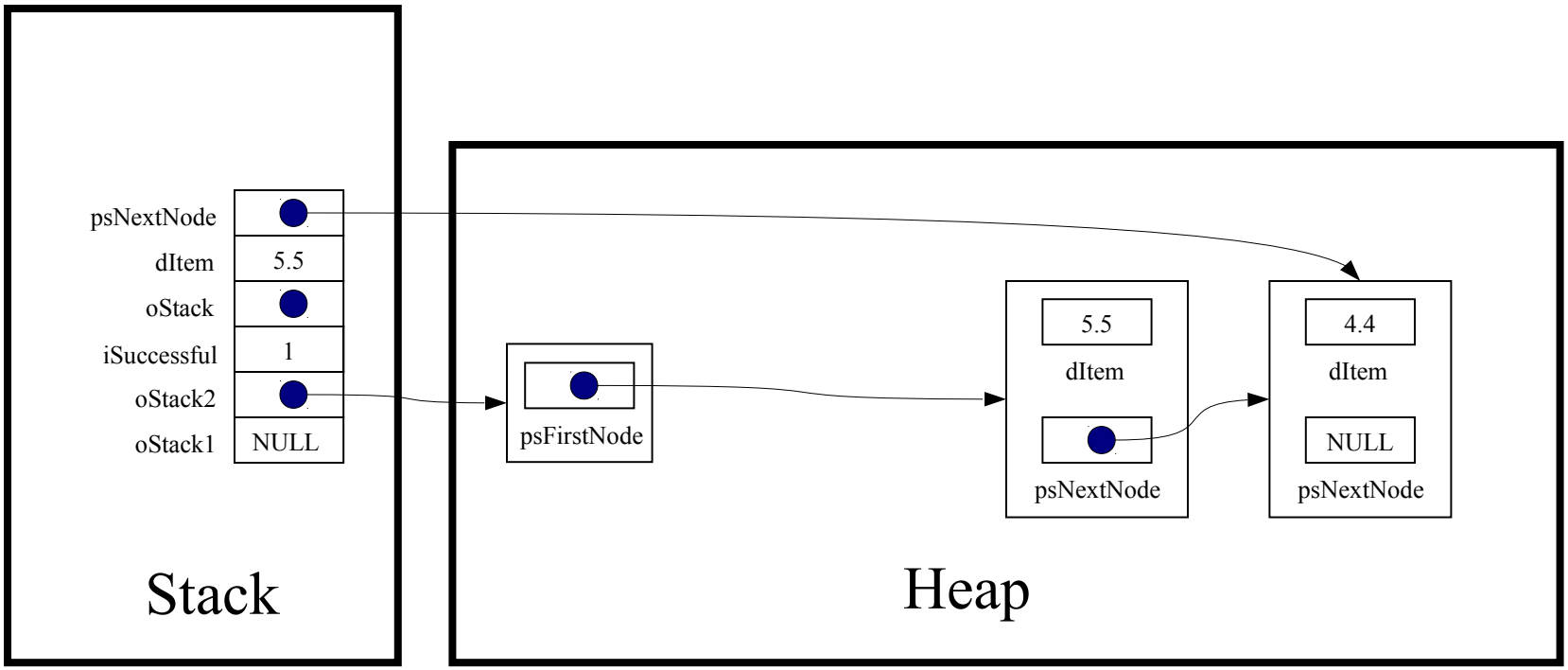
Trace of teststack (Version 4)

```
psNextNode = oStack->psFirstNode->psNextNode;
```



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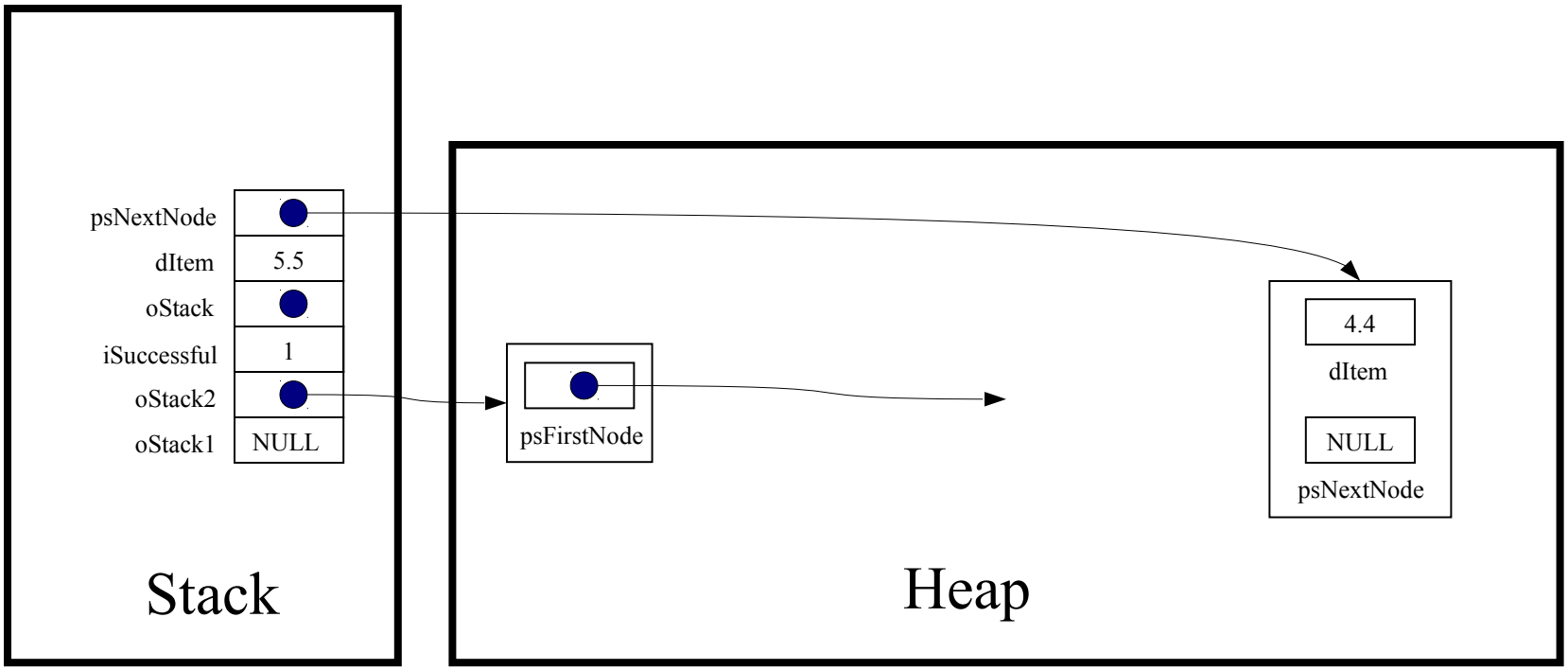
```
free(oStack->psFirstNode);
```



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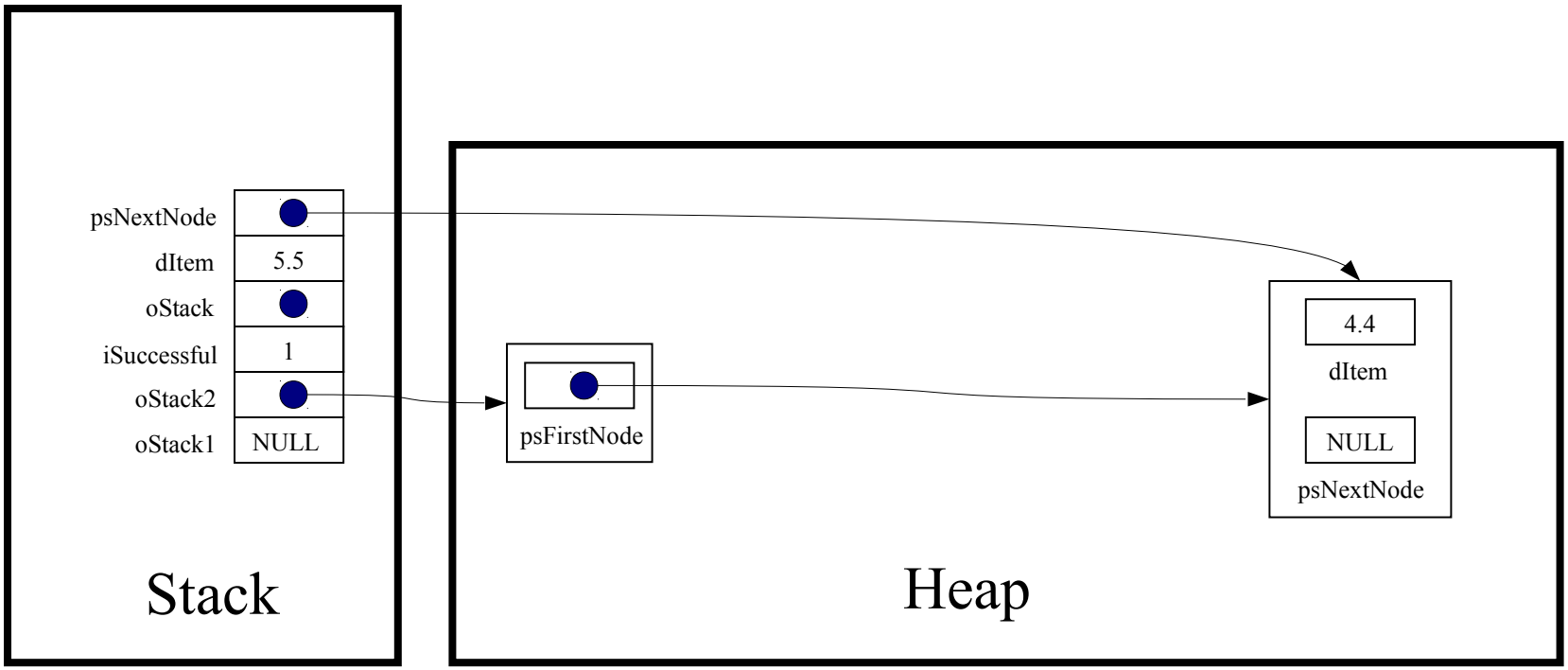
Trace of teststack (Version 4)

```
oStack->psFirstNode = psNextNode;
```



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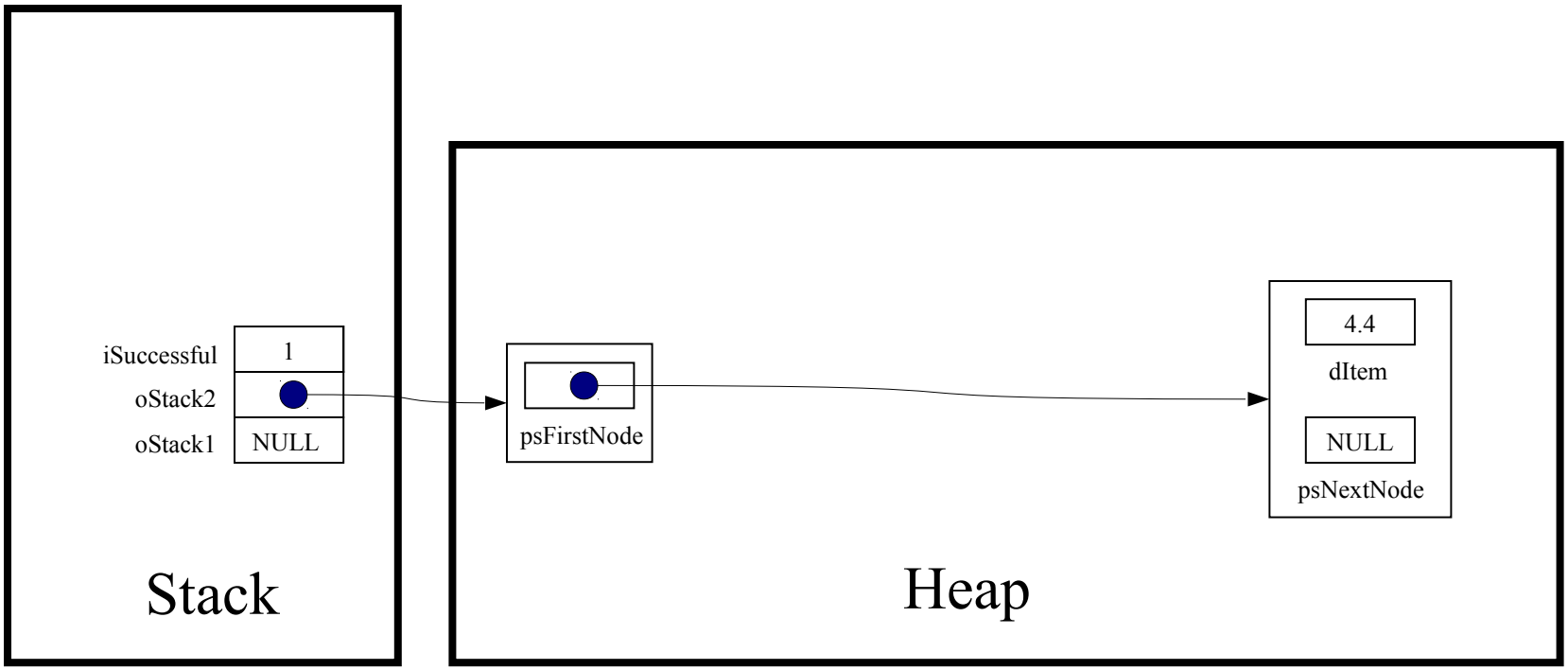
Trace of teststack (Version 4)

```
return dItem;
```



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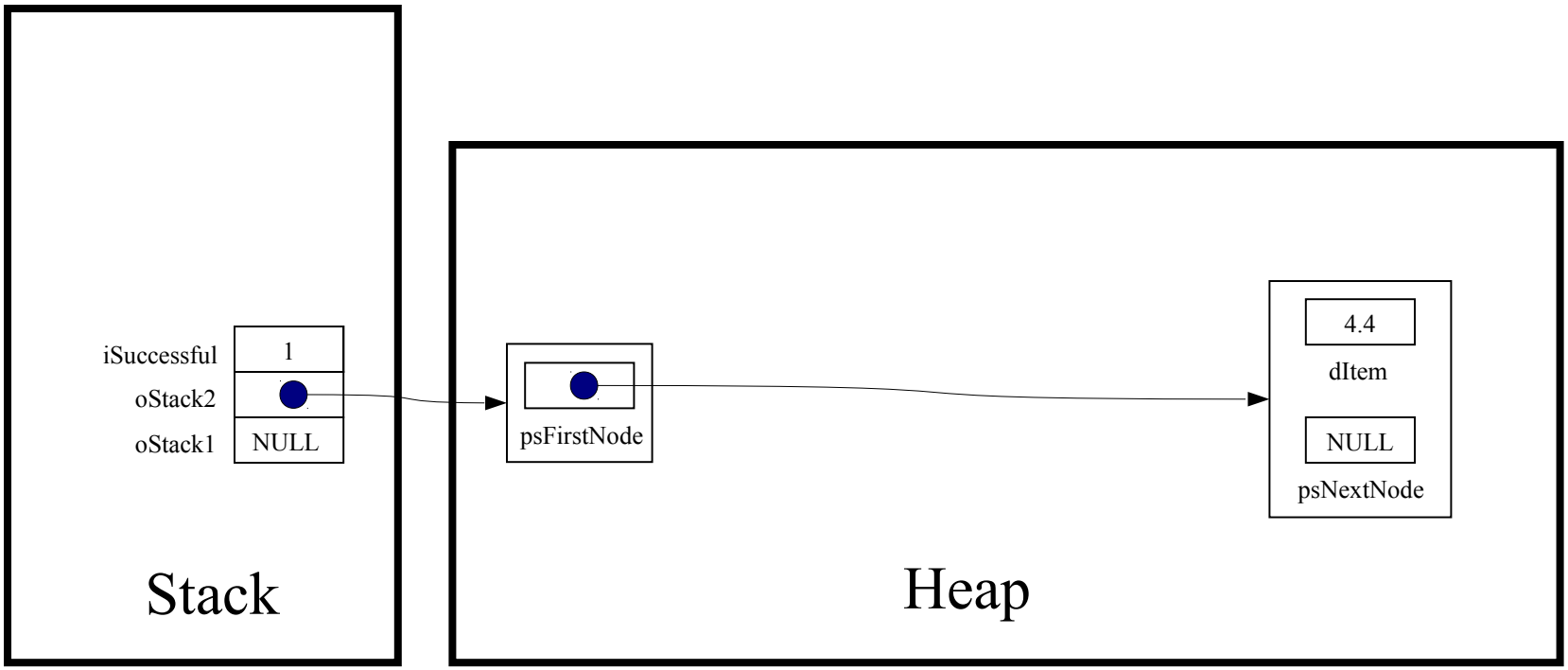
Trace of teststack (Version 4)

```
printf("%g\n", Stack_pop(oStack2));
```



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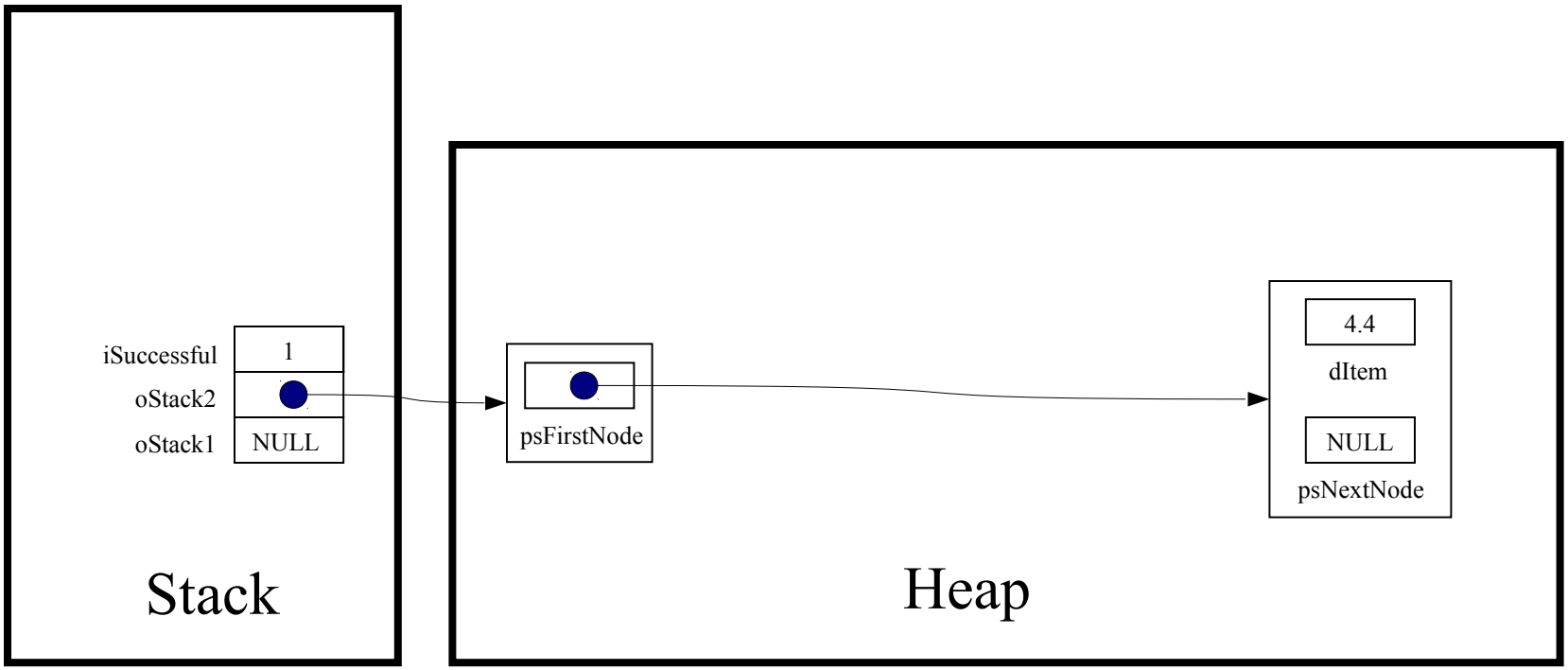
```
while (! Stack_isEmpty(oStack2))
   ...
```



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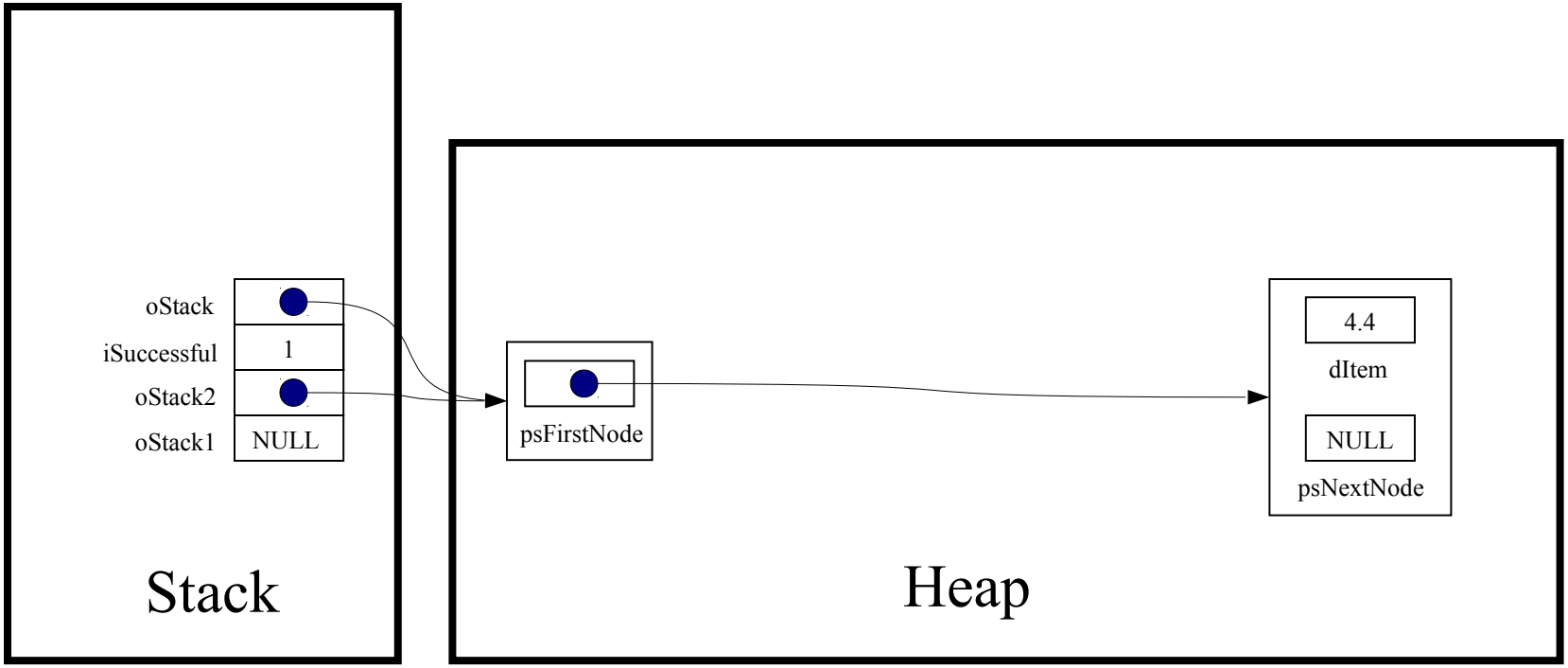
Trace of teststack (Version 4)

```
int Stack_isEmpty(Stack_T oStack)
```



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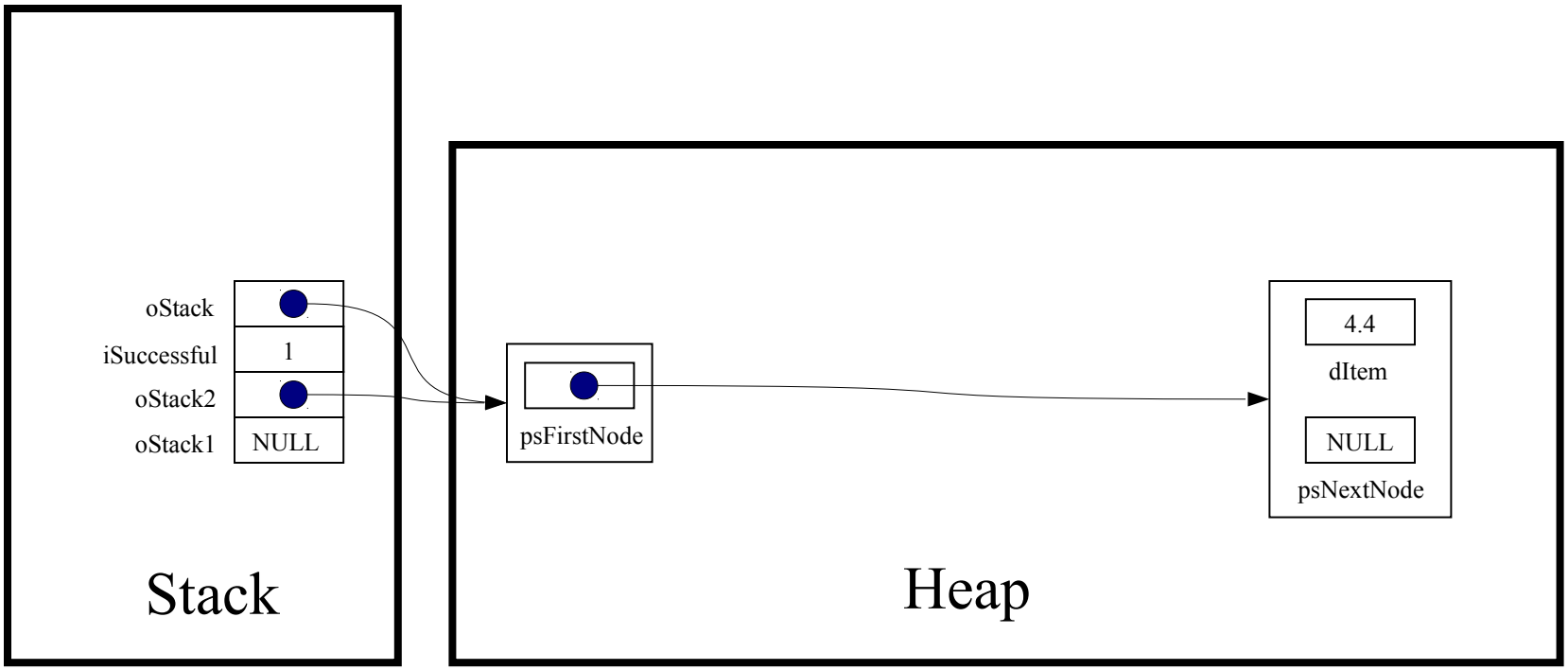
```
assert(oStack != NULL);
```



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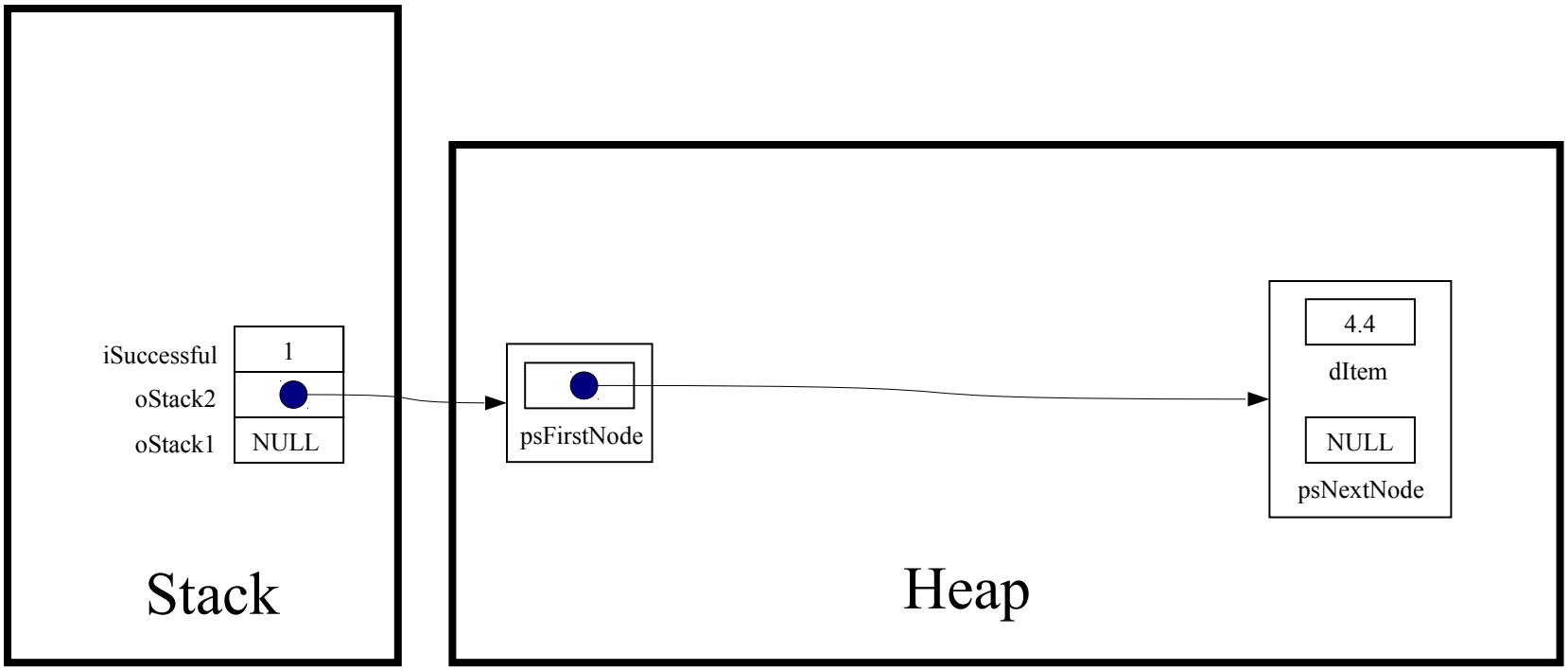
Trace of teststack (Version 4)

```
return oStack->psFirstNode == NULL;
```



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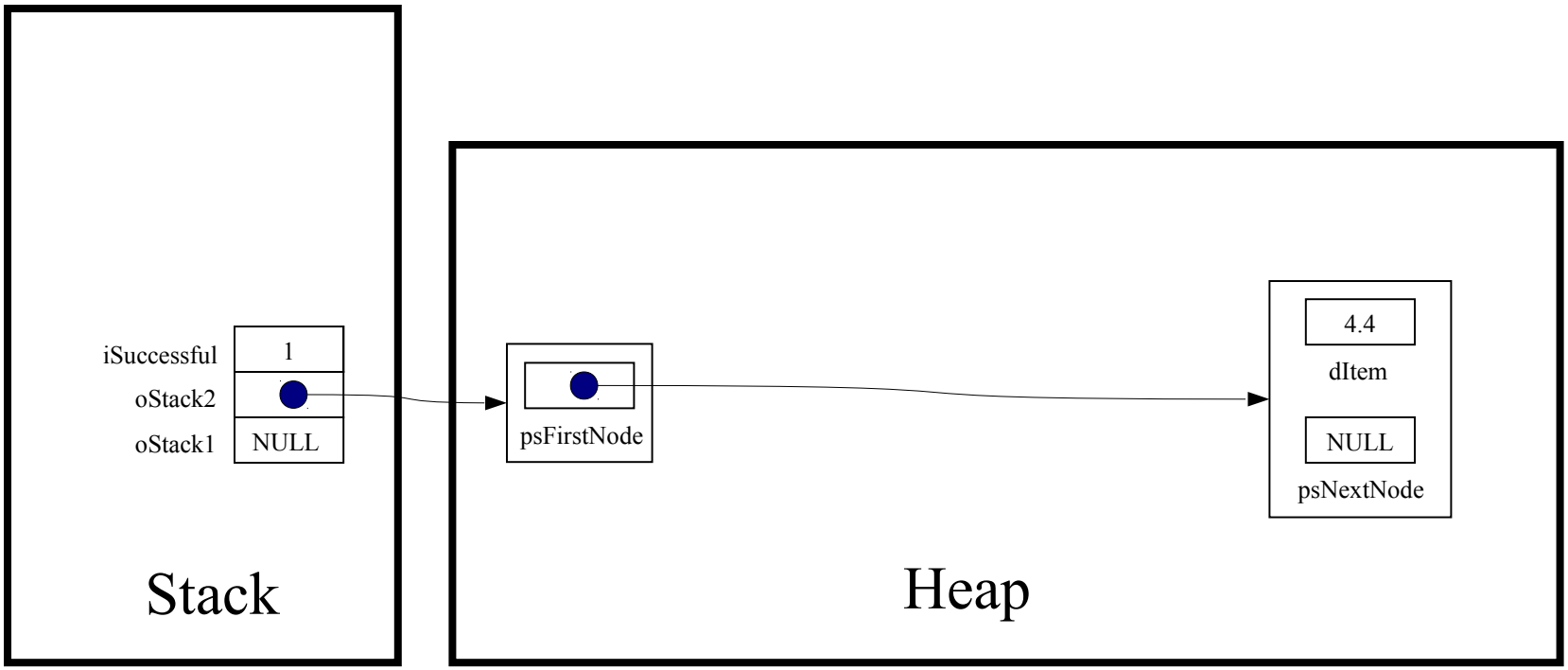
Trace of teststack (Version 4)

```
while (! Stack_isEmpty(oStack2))
   ...
```



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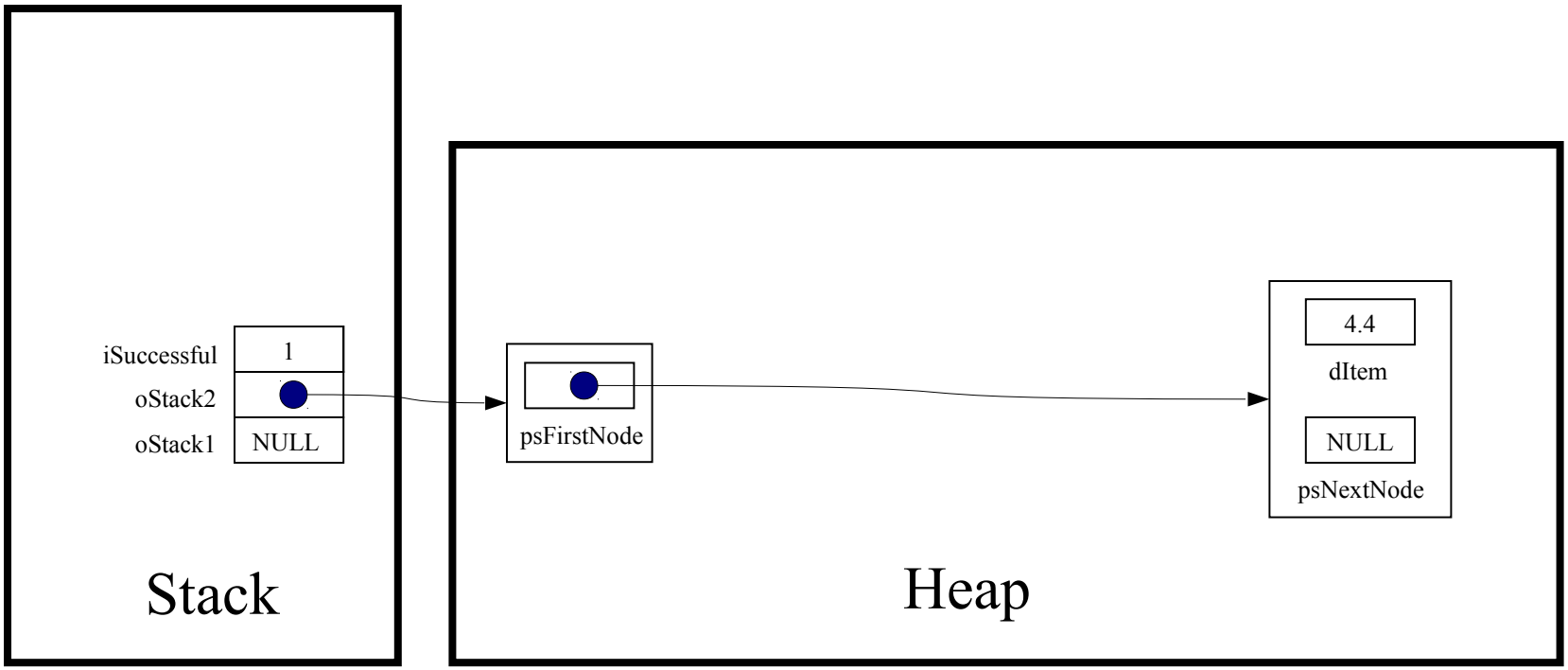
Trace of teststack (Version 4)

```
printf("%g\n", Stack_pop(oStack2));
```



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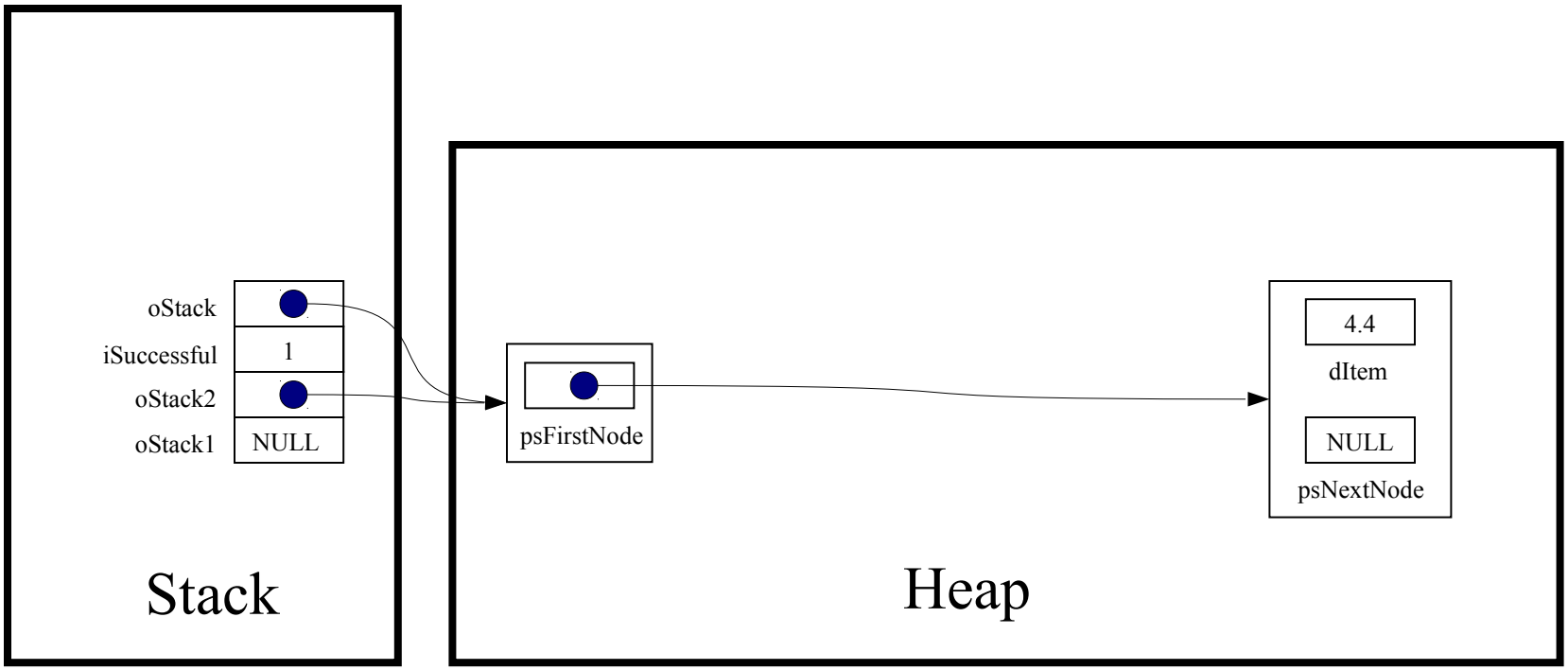
```
double Stack_pop(oStack)
```



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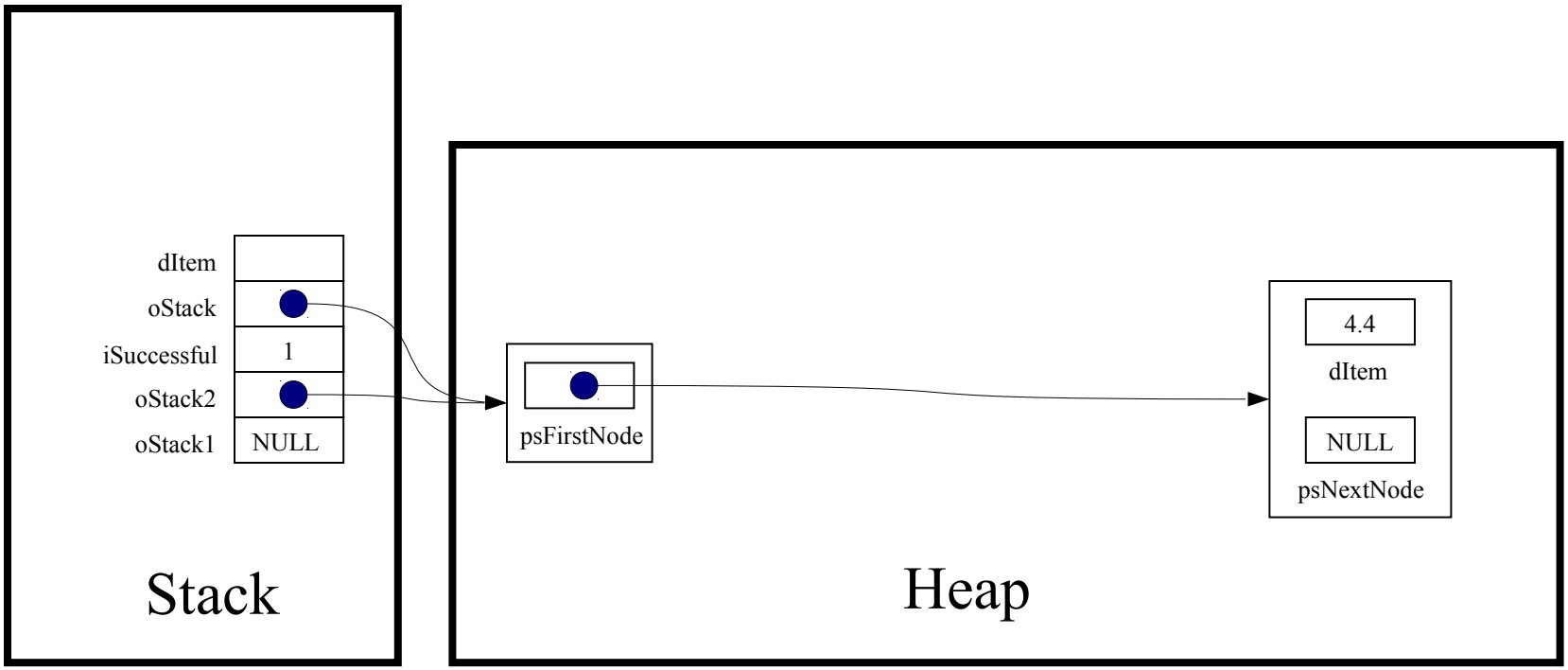
Trace of teststack (Version 4)

```
double dItem;
```



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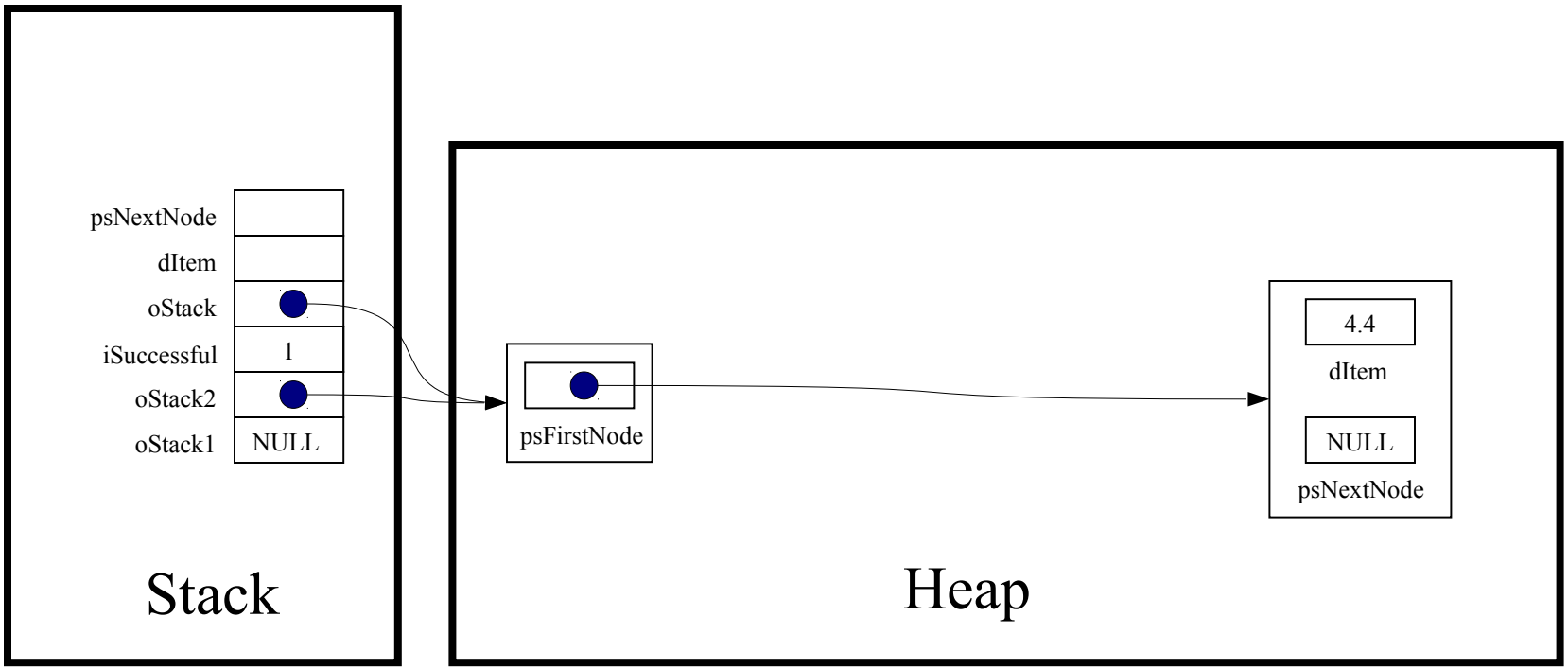
Trace of teststack (Version 4)

```
struct StackNode *psNextNode;
```



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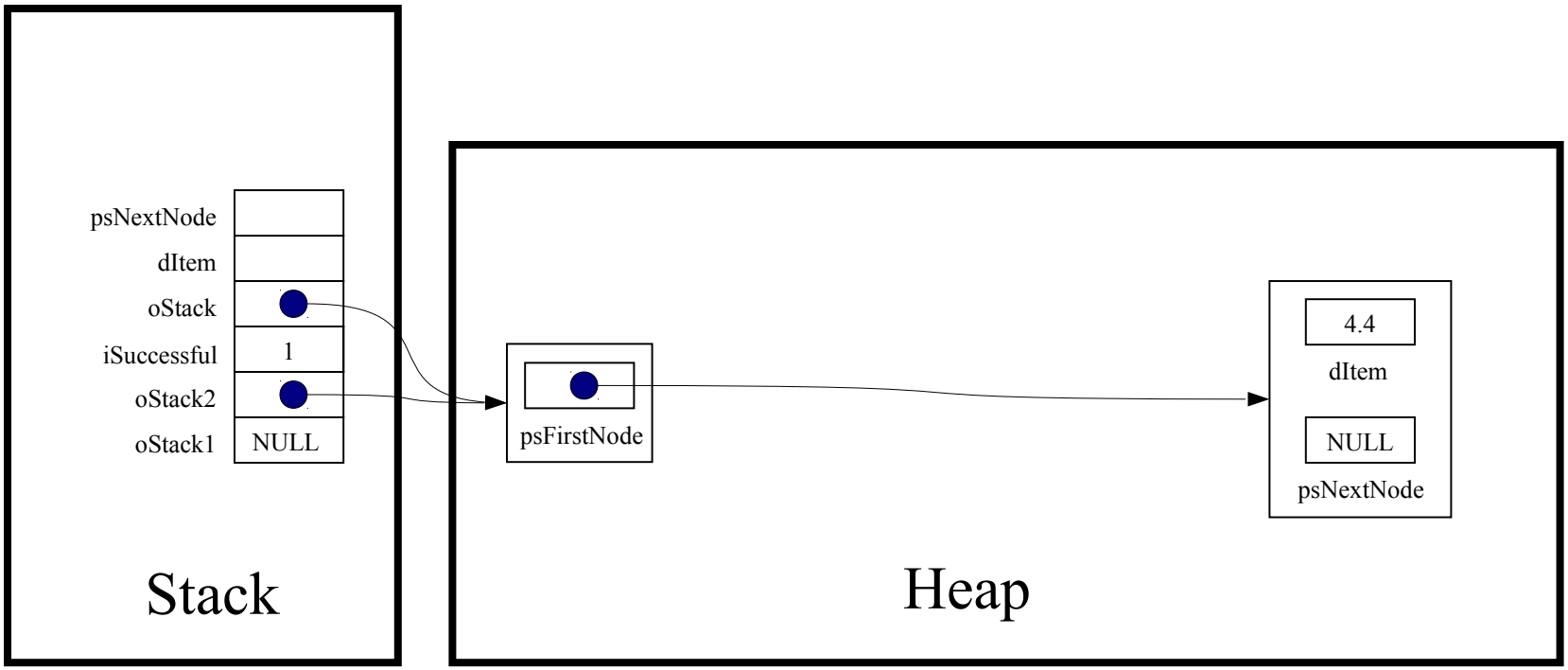
Trace of teststack (Version 4)

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



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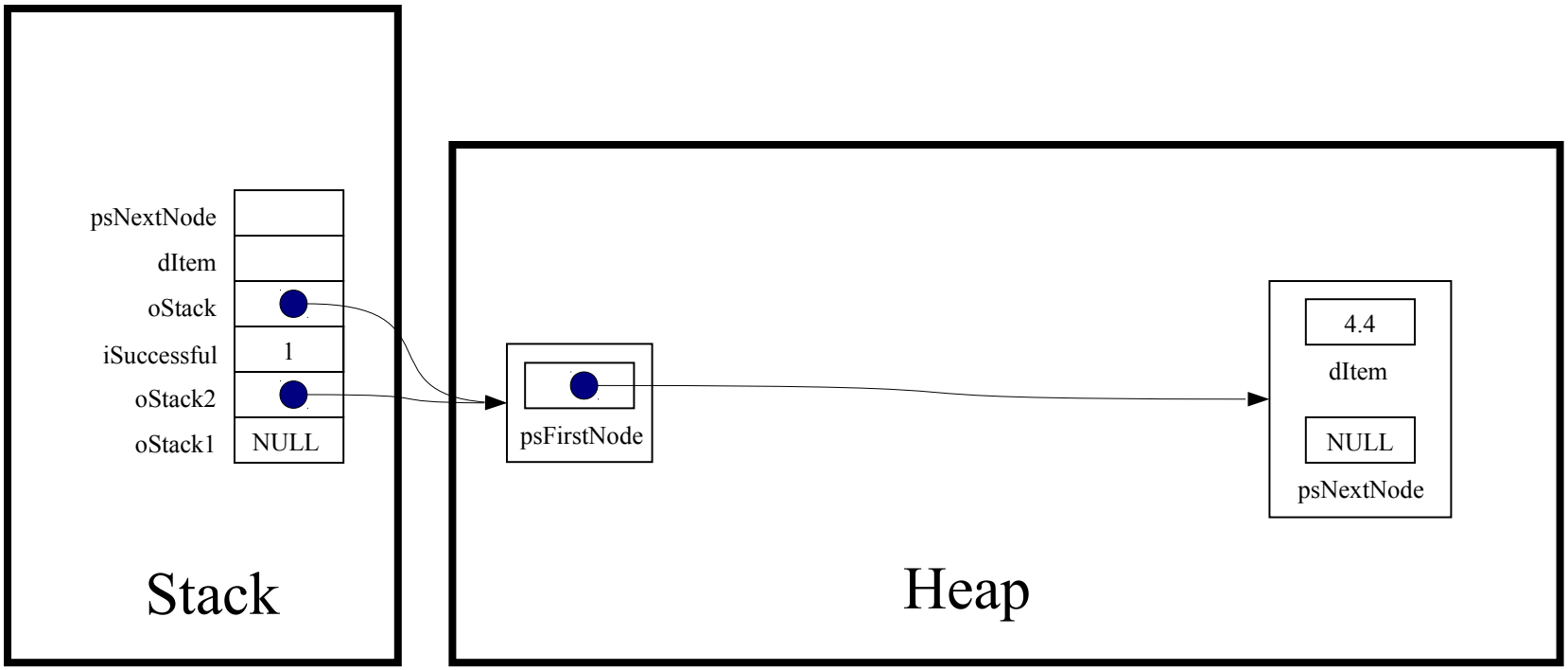
Trace of teststack (Version 4)

```
assert(oStack->psFirstNode != NULL);
```



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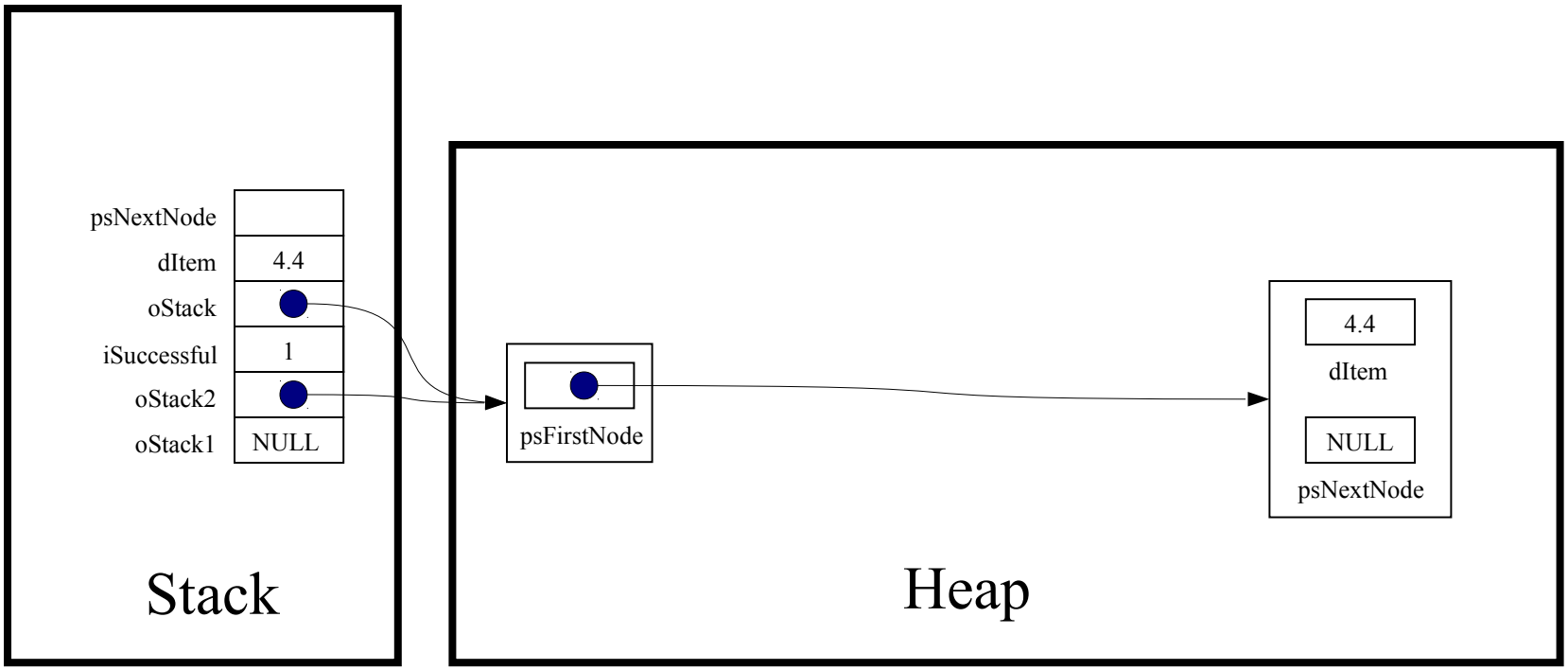
```
dItem = oStack->psFirstNode->dItem;
```



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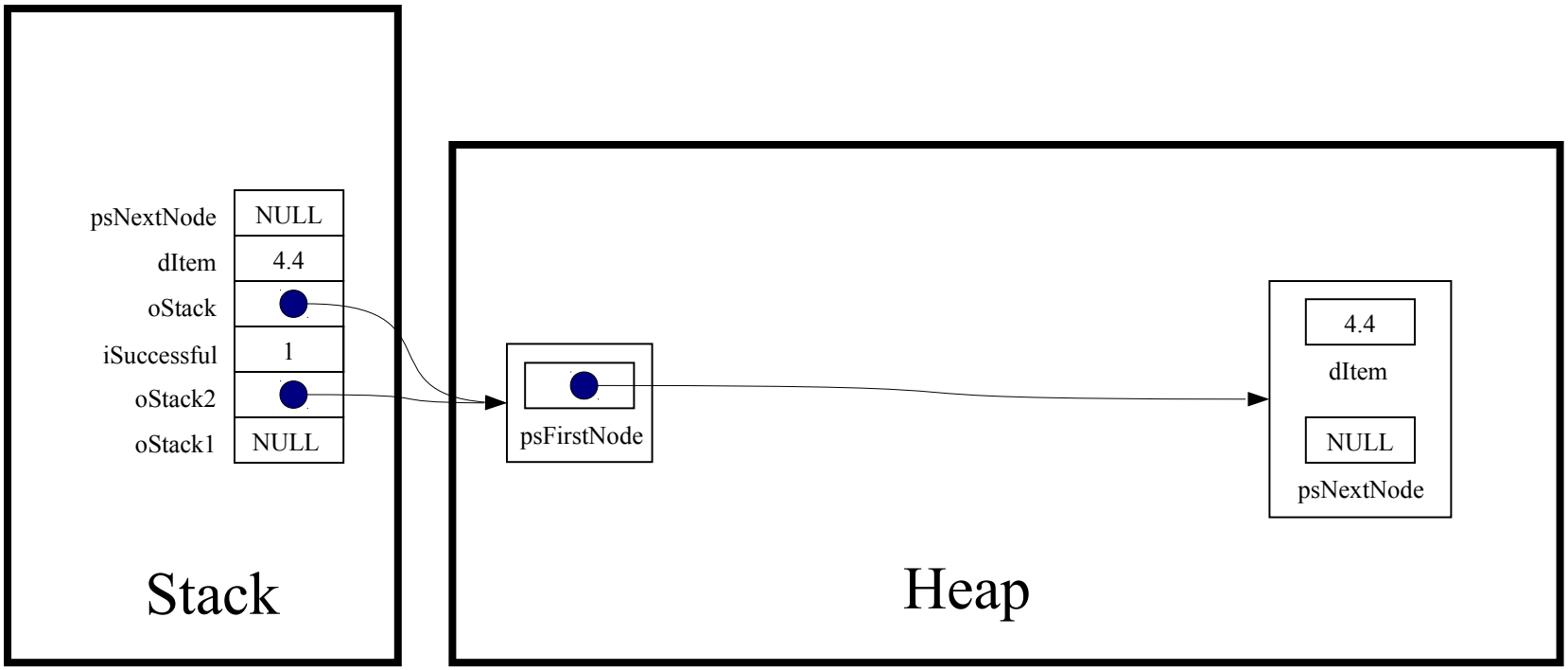
Trace of teststack (Version 4)

```
psNextNode = oStack->psFirstNode->psNextNode;
```



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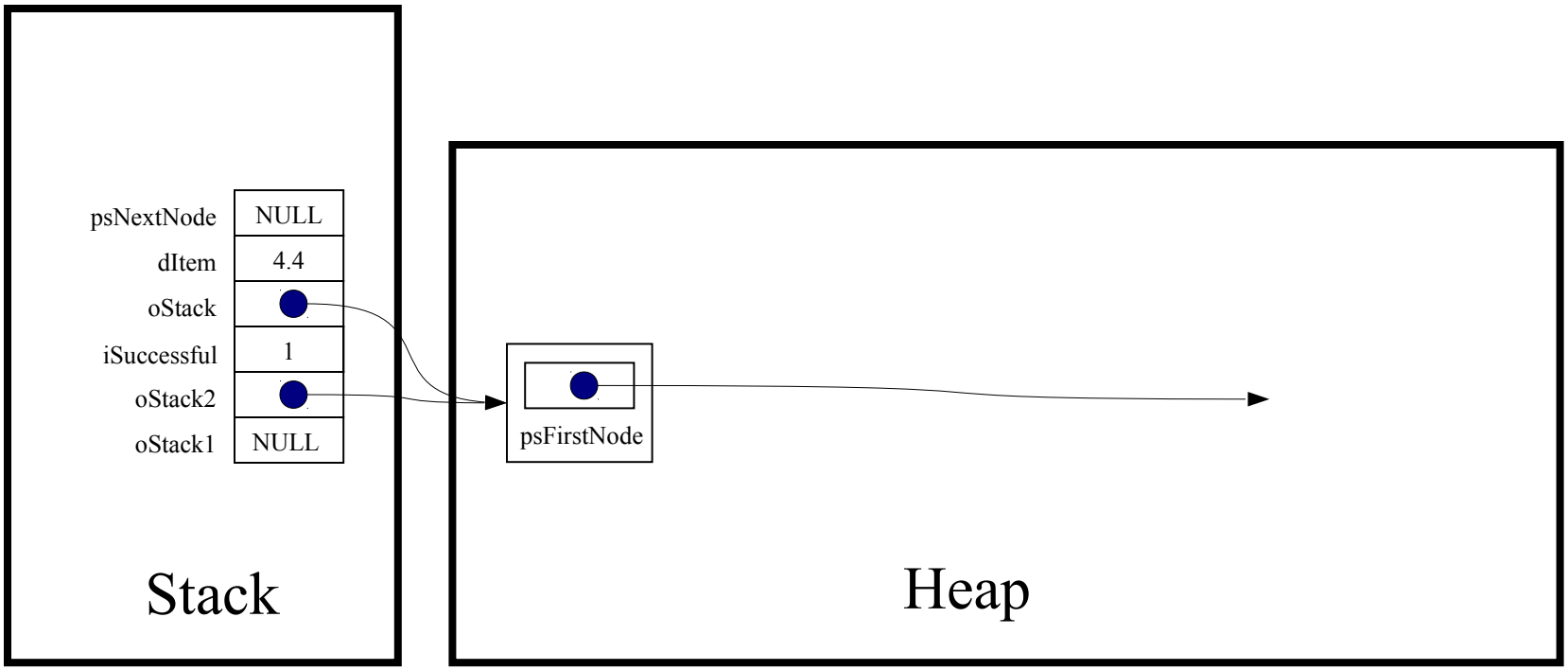
```
free(oStack->psFirstNode);
```



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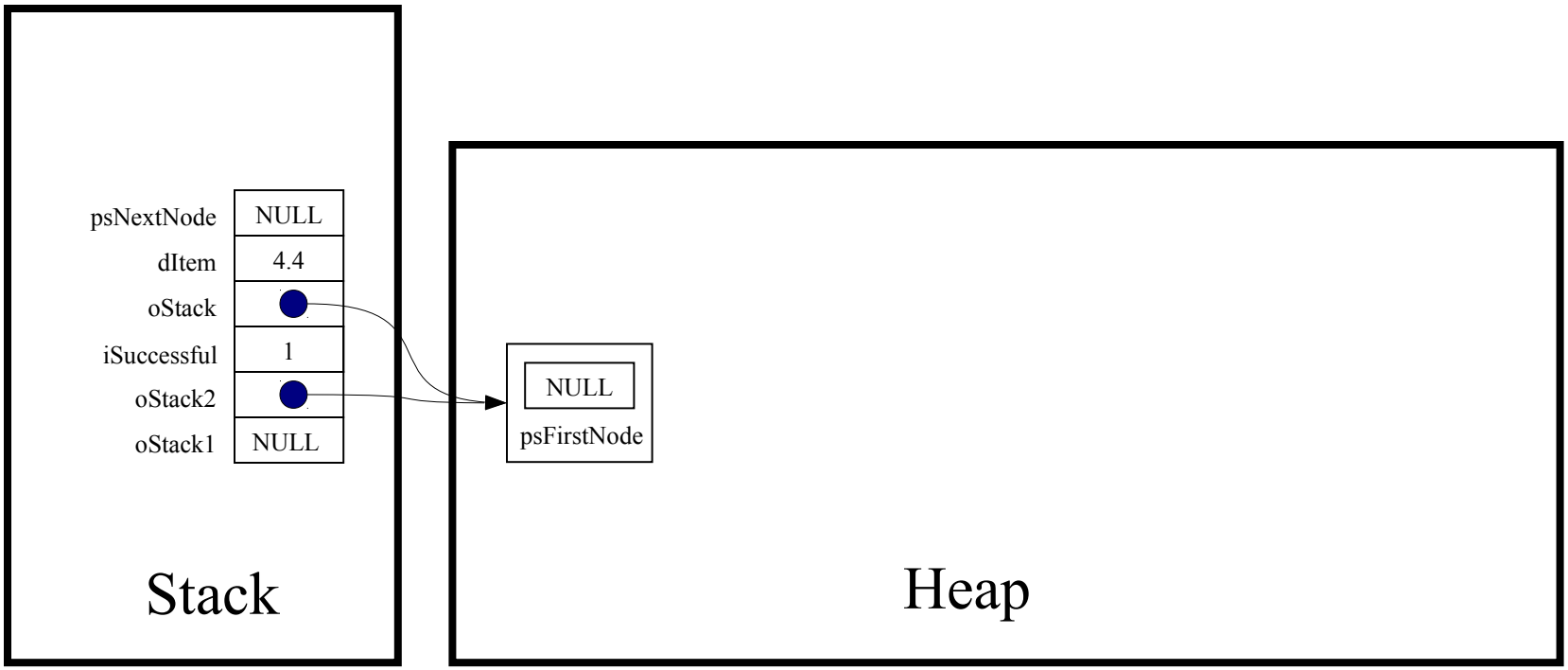
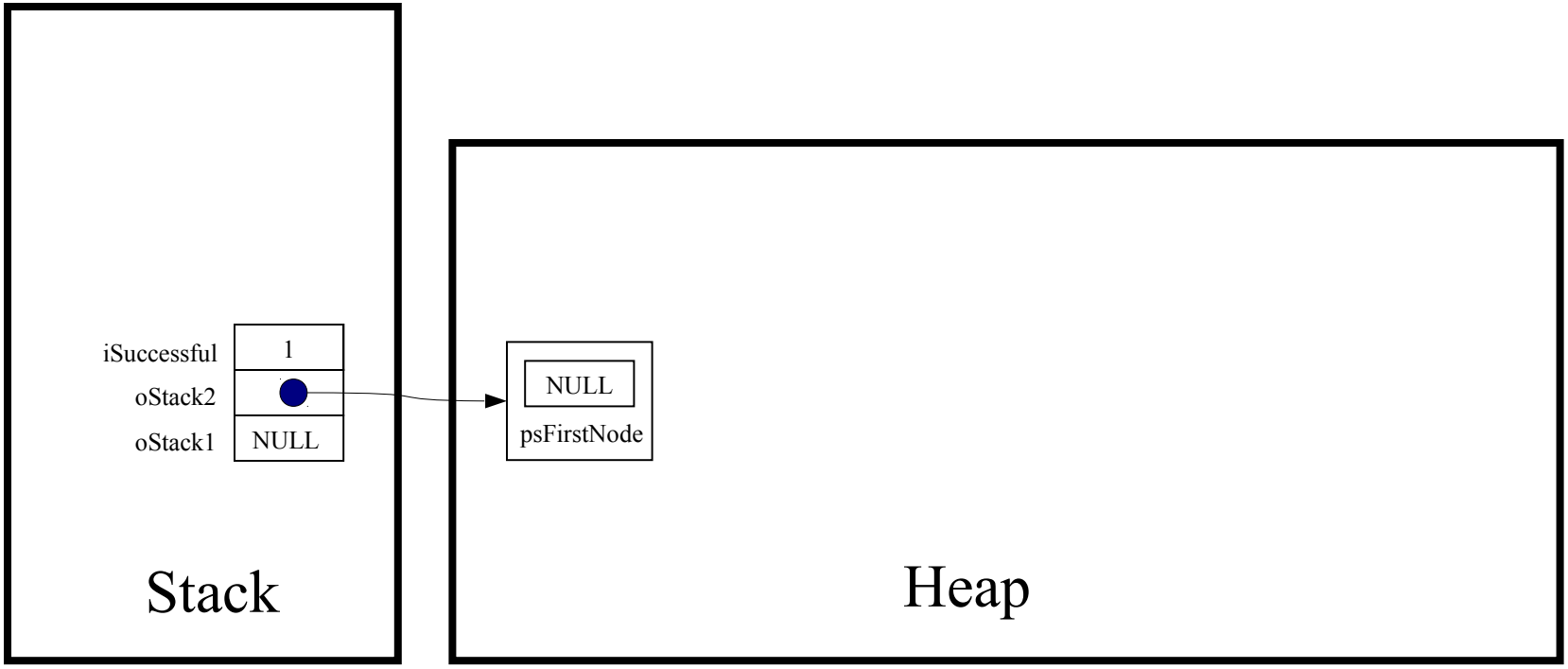
Trace of teststack (Version 4)

```
oStack->psFirstNode = psNextNode;
```



```
return dItem;
```



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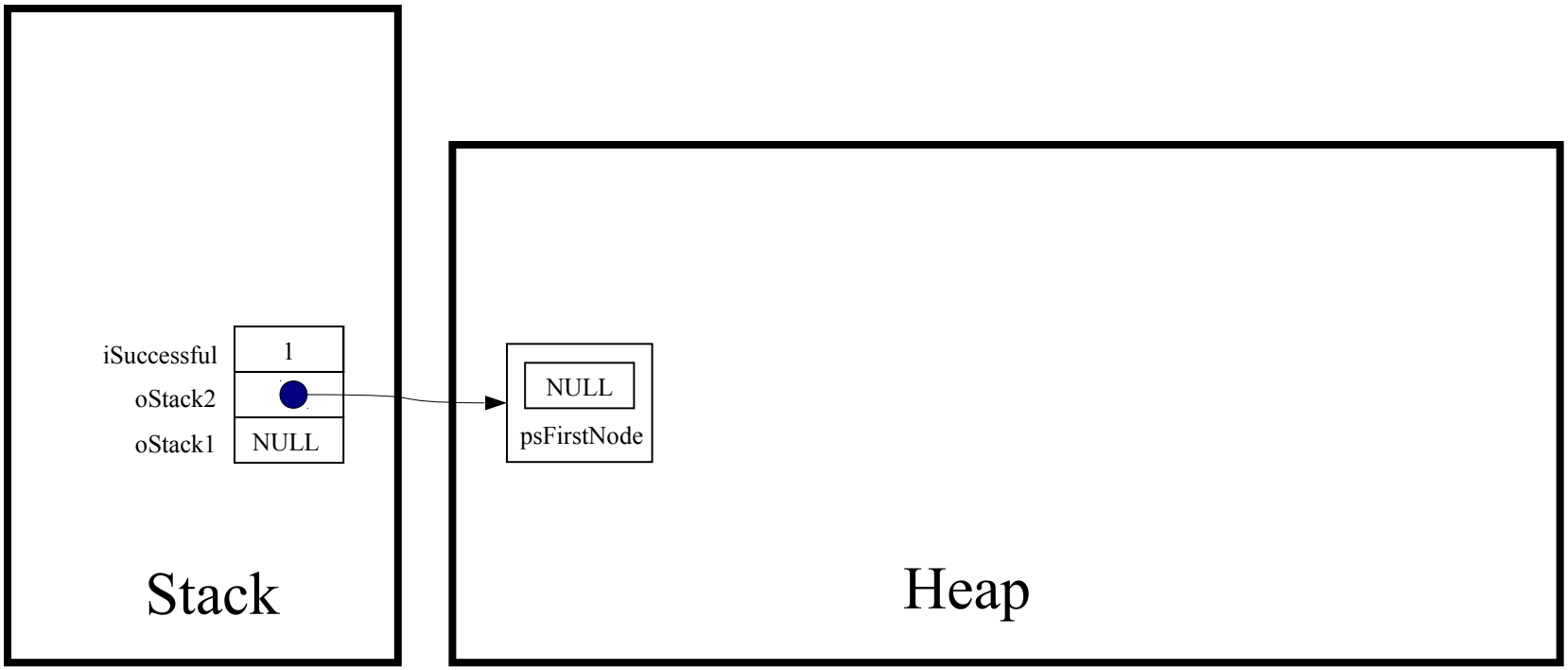
Trace of teststack (Version 4)

```
printf("%g\n", Stack_pop(oStack2));
```



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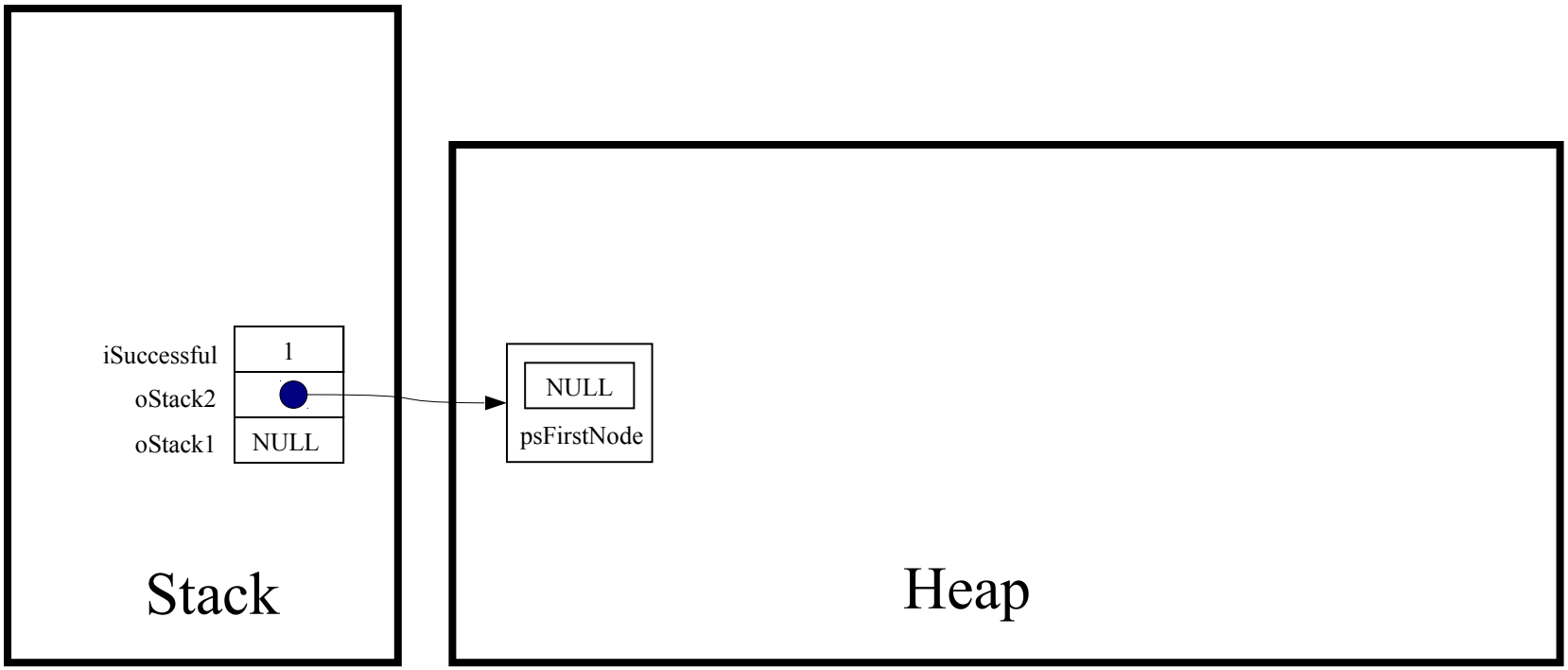
Trace of teststack (Version 4)

```
while (! Stack_isEmpty(oStack2))
   ...
```



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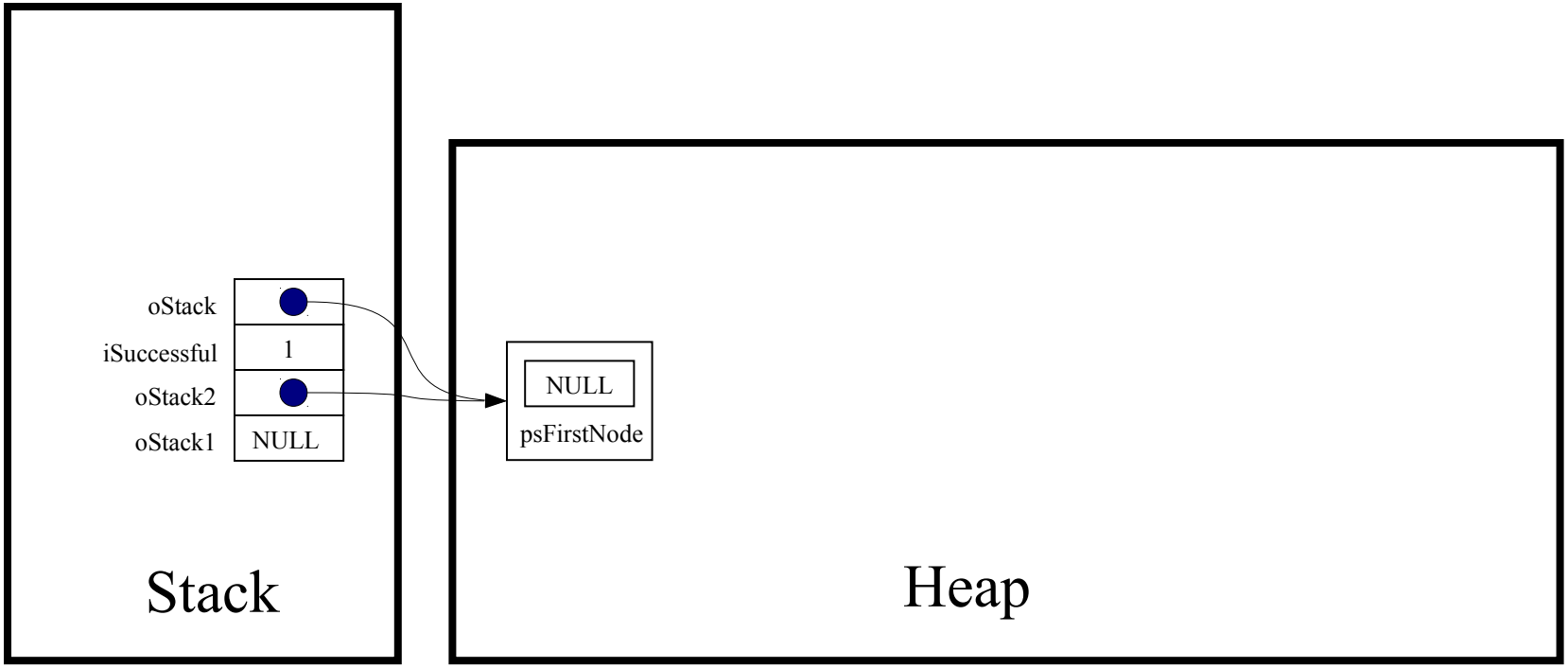
Trace of teststack (Version 4)

```
int Stack_isEmpty(Stack_T oStack)
```



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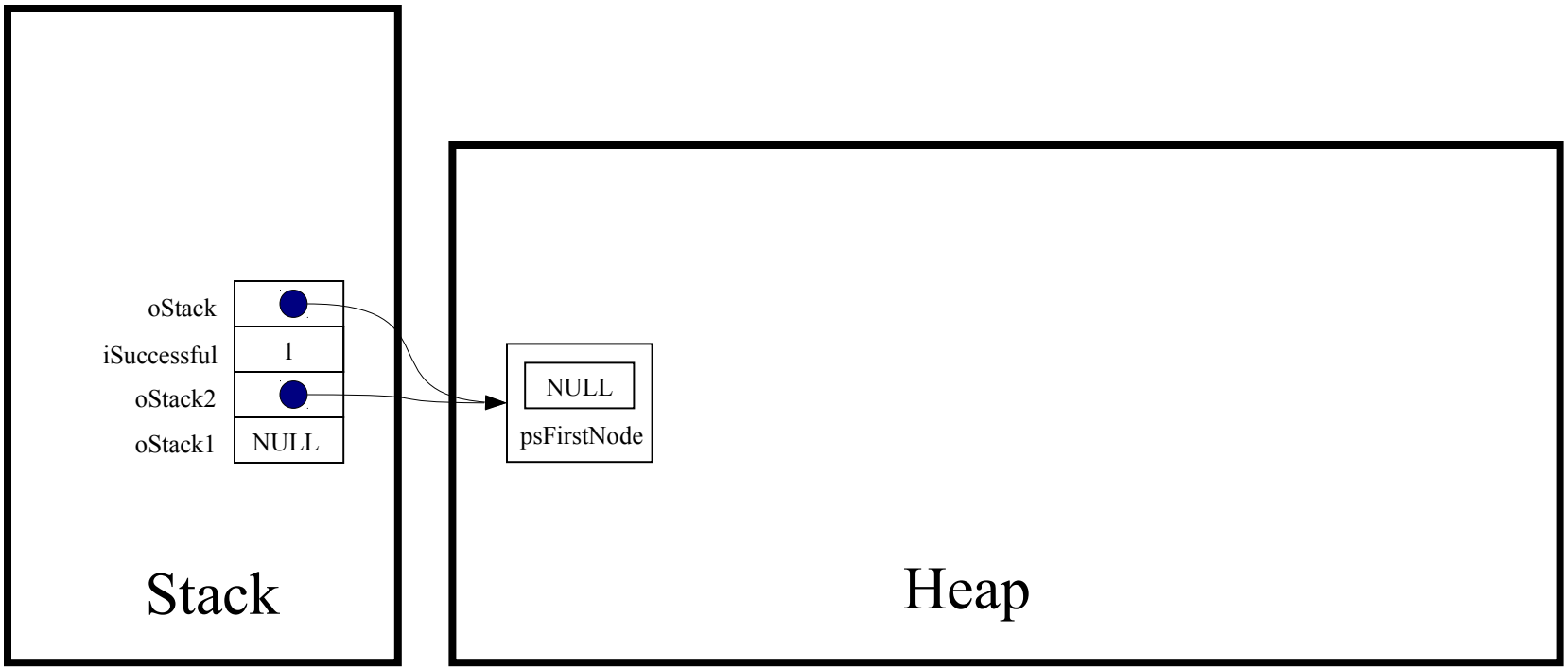
Trace of teststack (Version 4)

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



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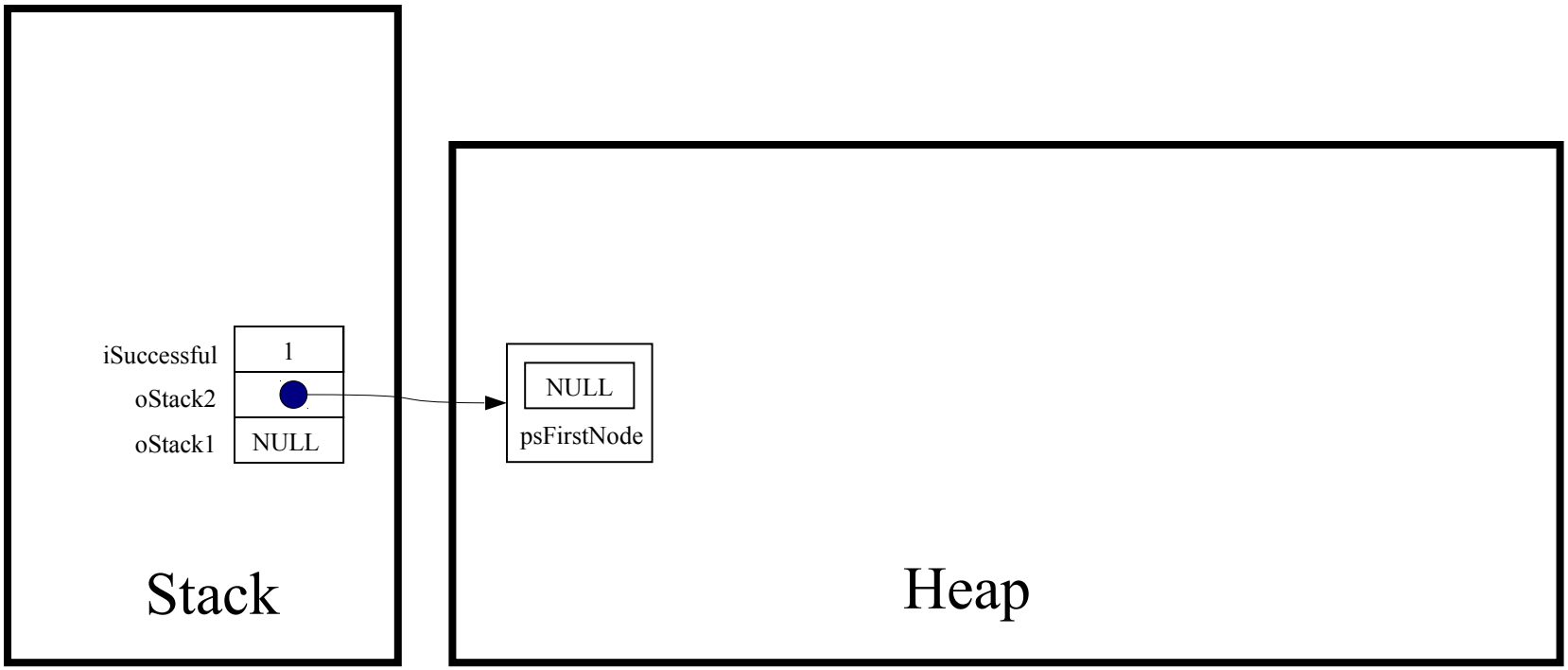
```
return oStack->psFirstNode == NULL;
```



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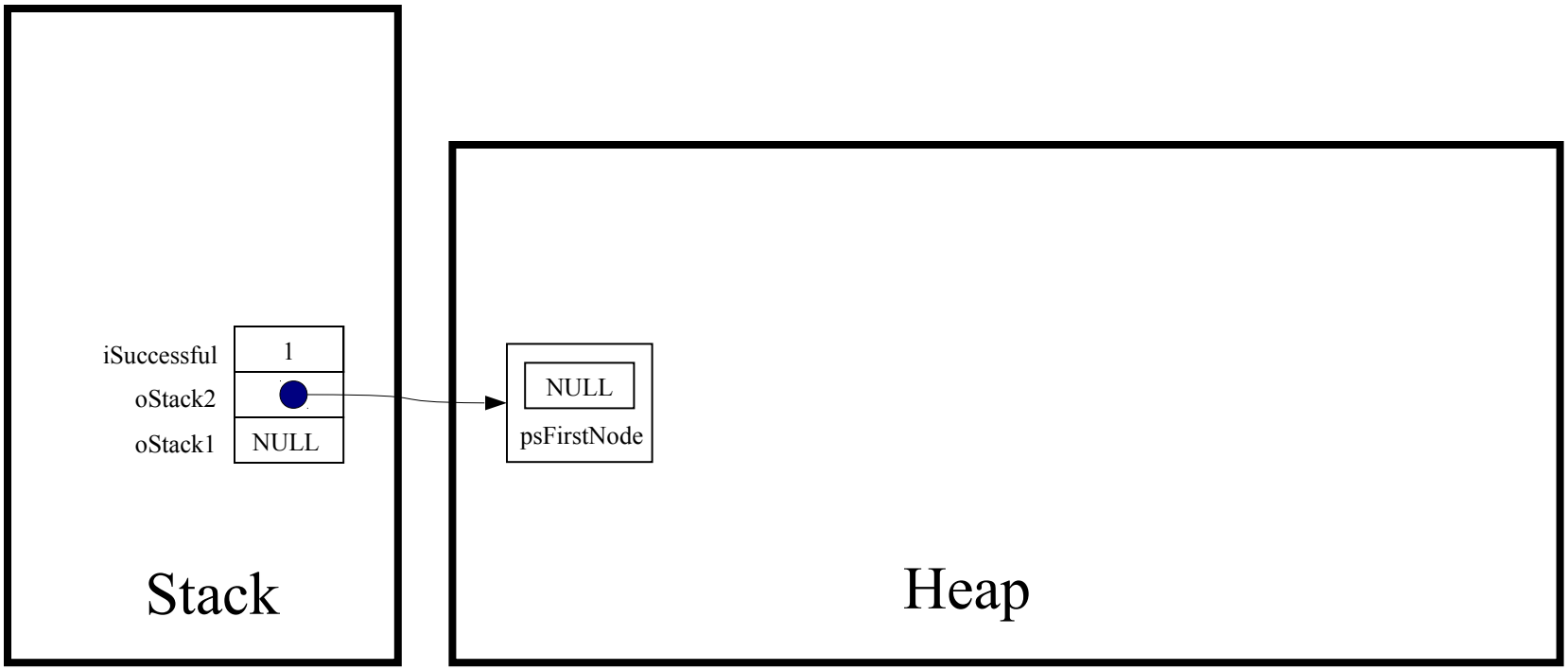
Trace of teststack (Version 4)

```
while (! Stack_isEmpty(oStack2))
   ...
```



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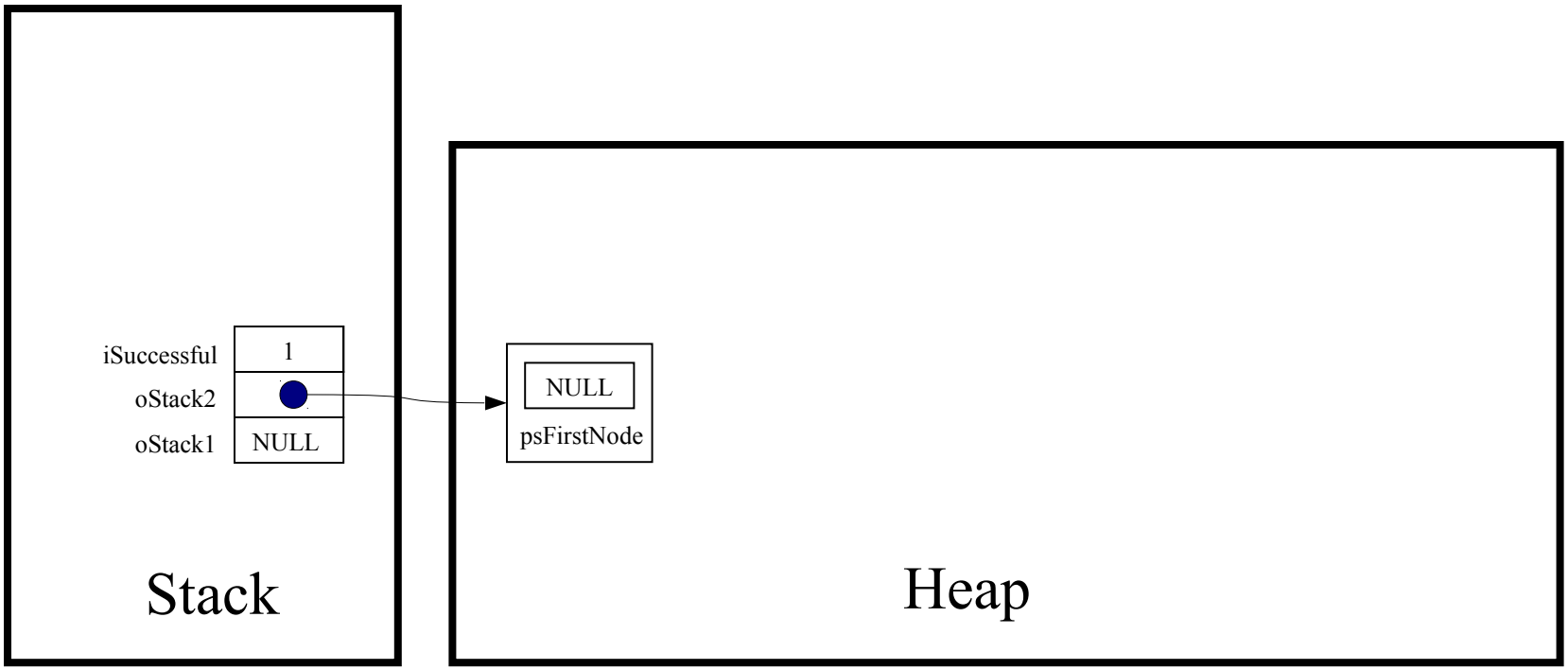
Trace of teststack (Version 4)

```
Stack_free(oStack2);
```



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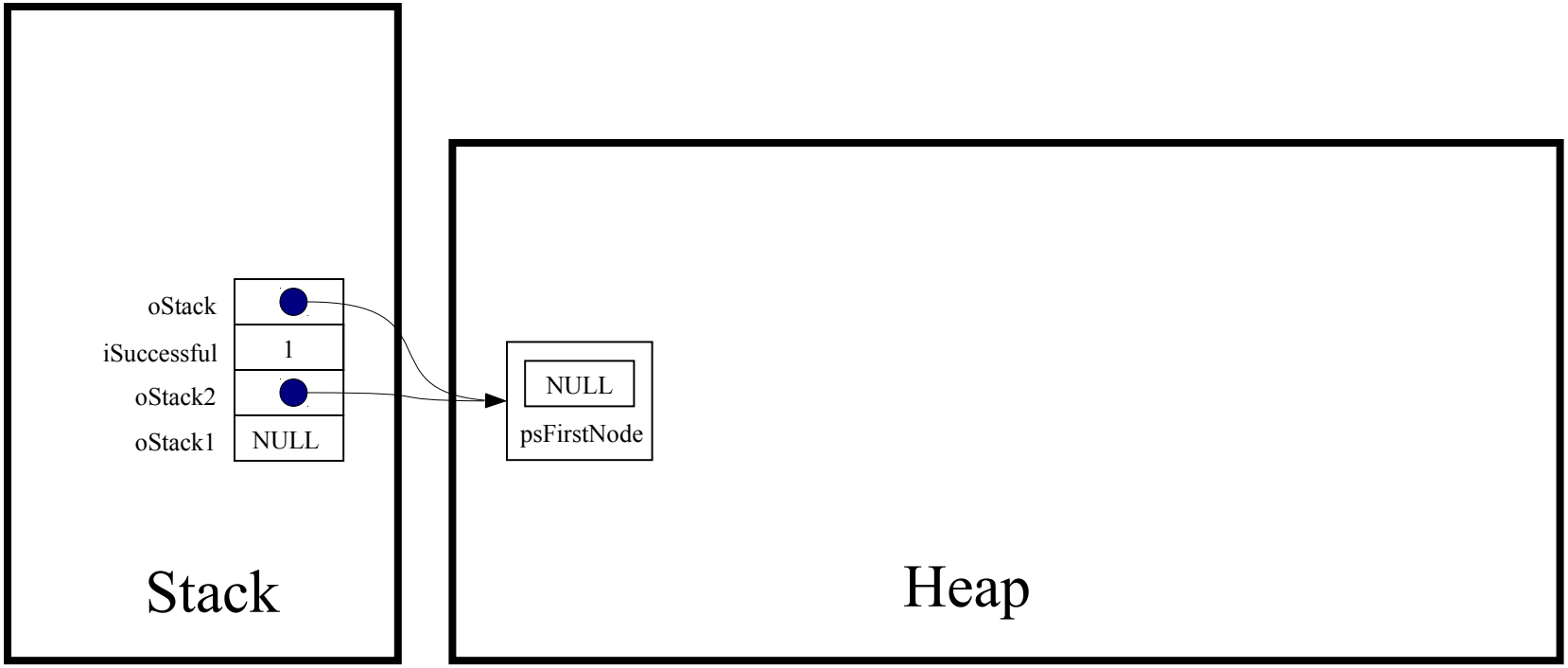
Trace of teststack (Version 4)

```
void Stack_free(Stack_T oStack)
```



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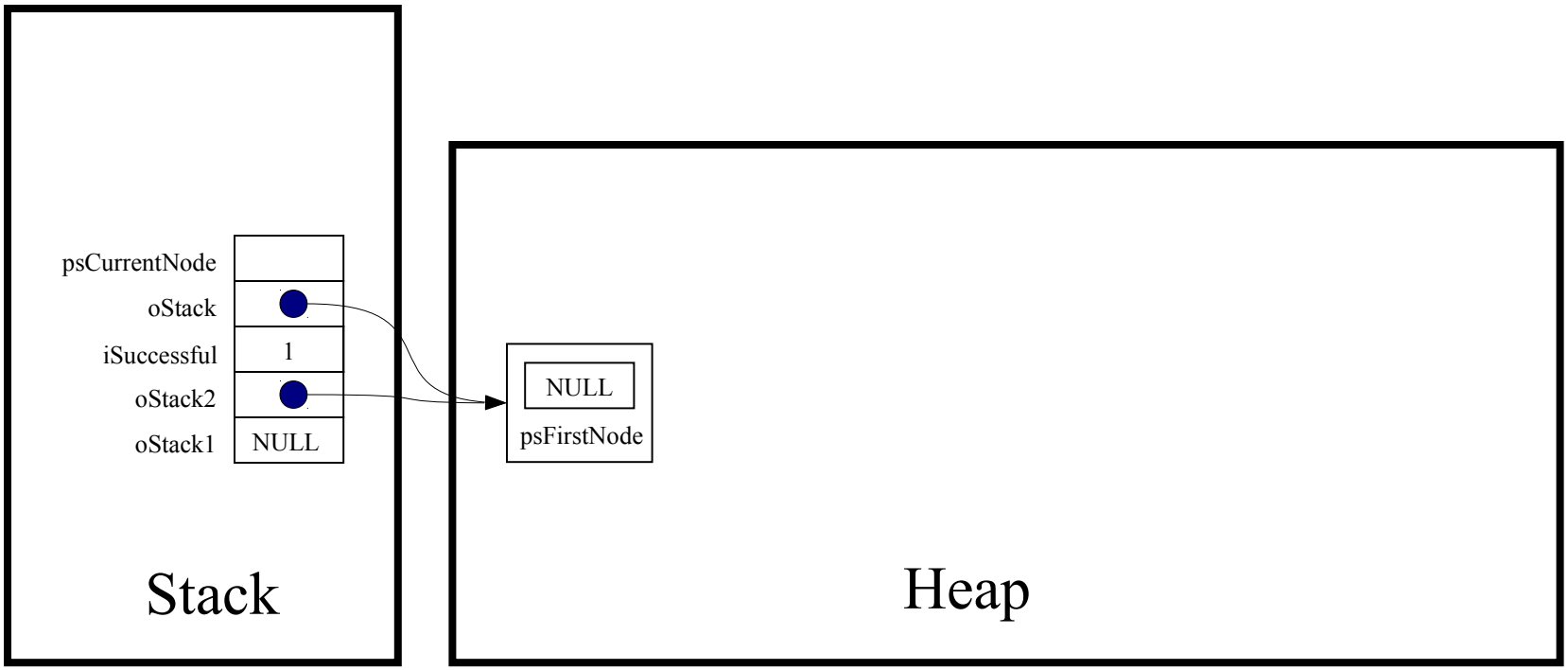
Trace of teststack (Version 4)

```
struct StackNode *psCurrentNode;
```



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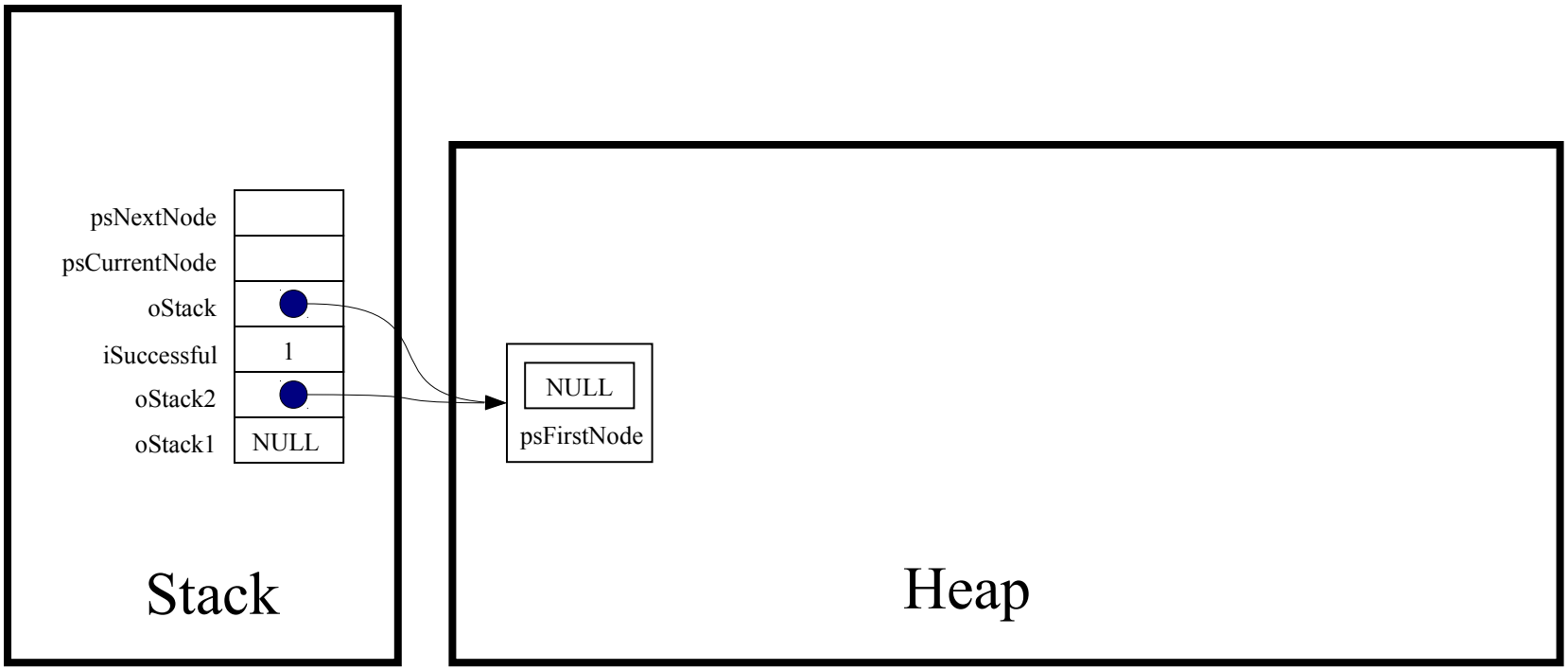
```
struct StackNode *psNextNode;
```



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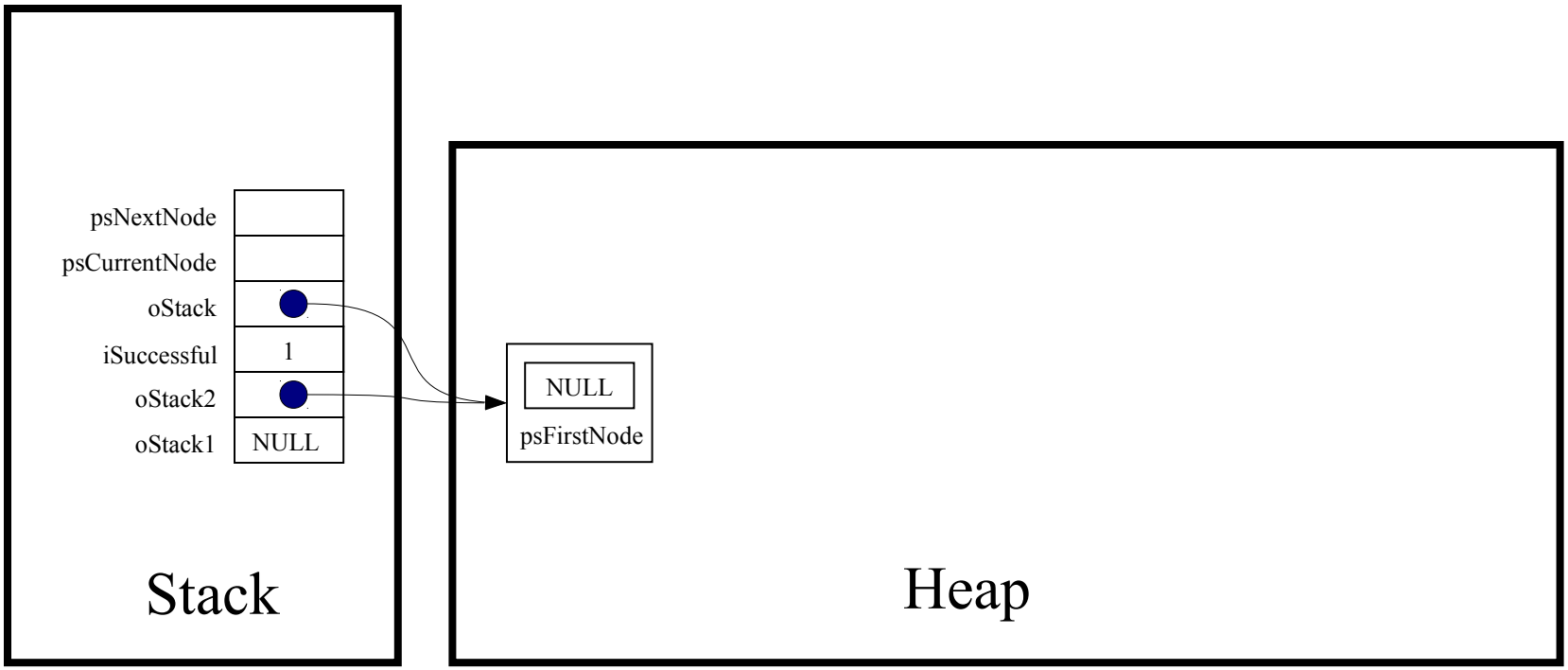
```
assert(oStack != NULL);
```



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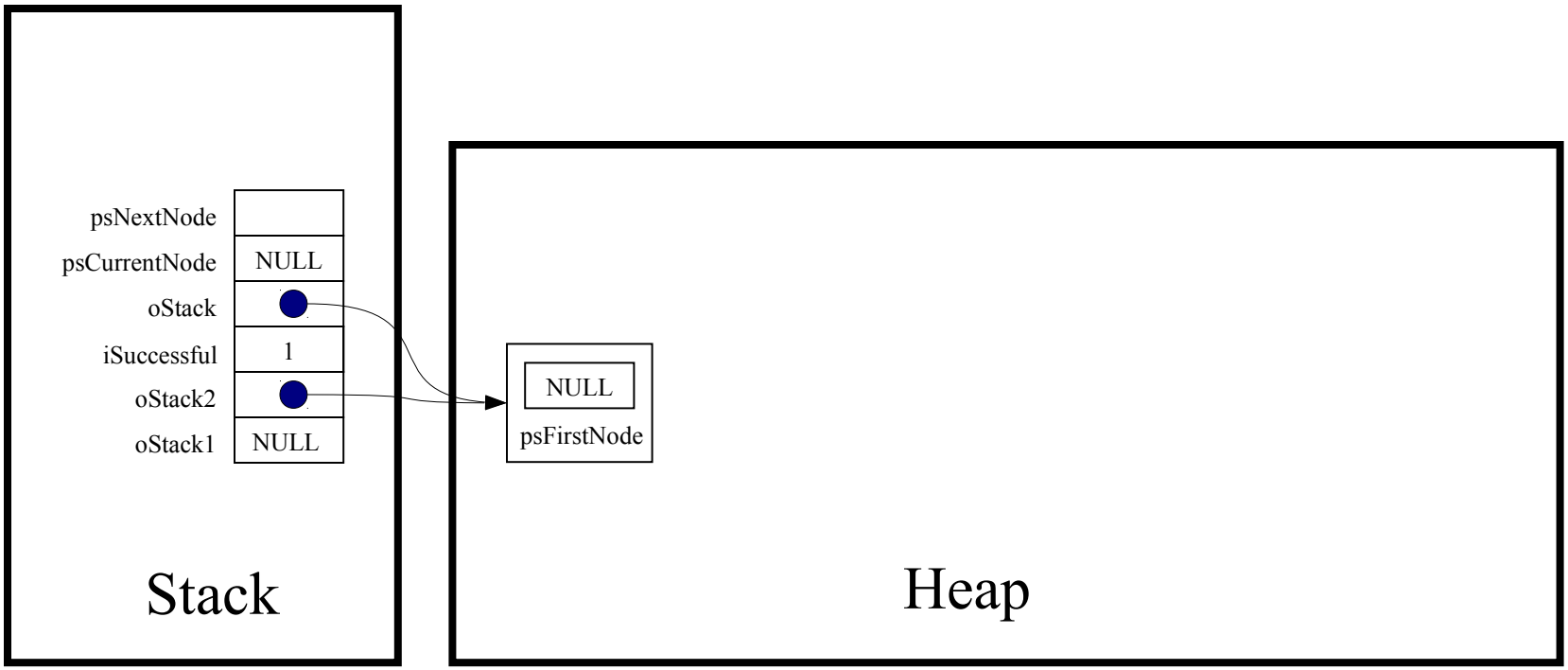
```
for (psCurrentNode = oStack->psFirstNode;
     psCurrentNode != NULL;
     psCurrentNode = psNextNode)
   ...
```



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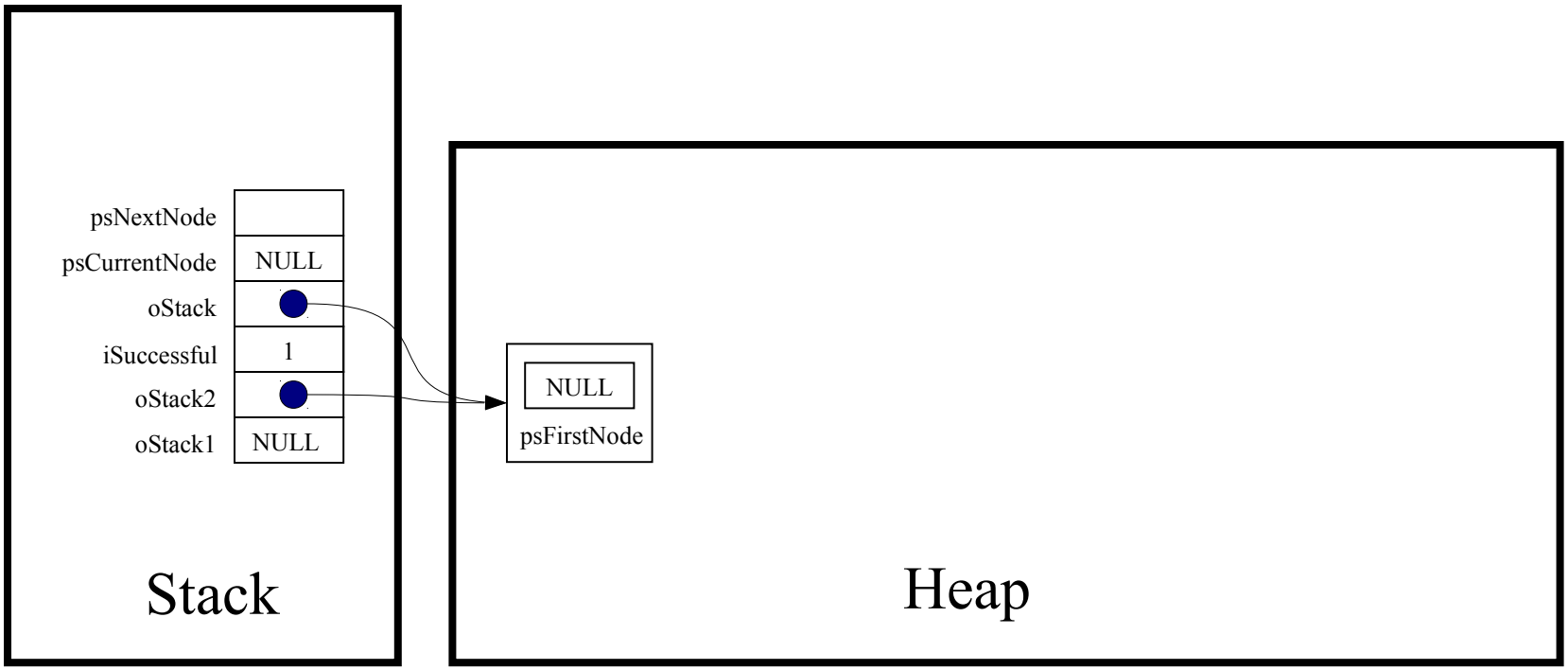
```
for (psCurrentNode = oStack->psFirstNode;
     psCurrentNode != NULL;
     psCurrentNode = psNextNode)
   ...
```



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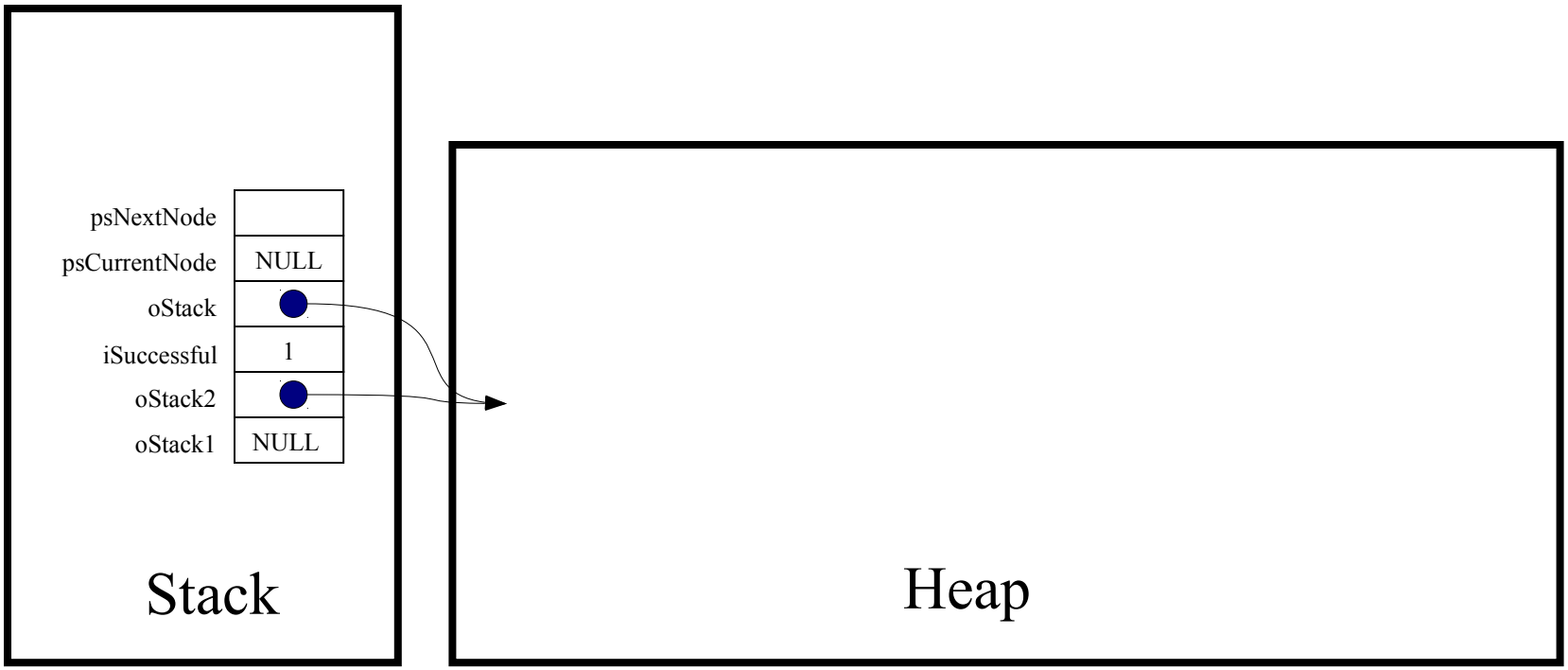
```
free(oStack);
```



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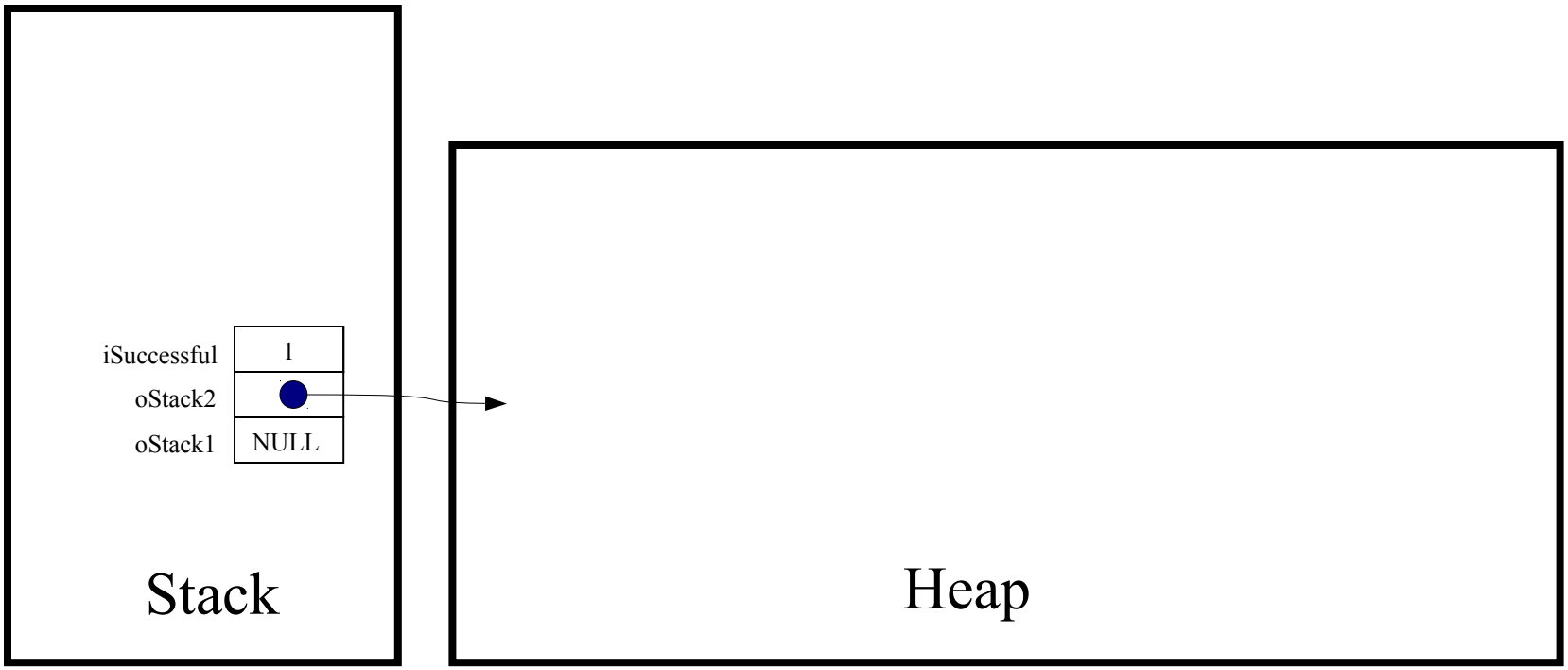
```
Implicit return
```



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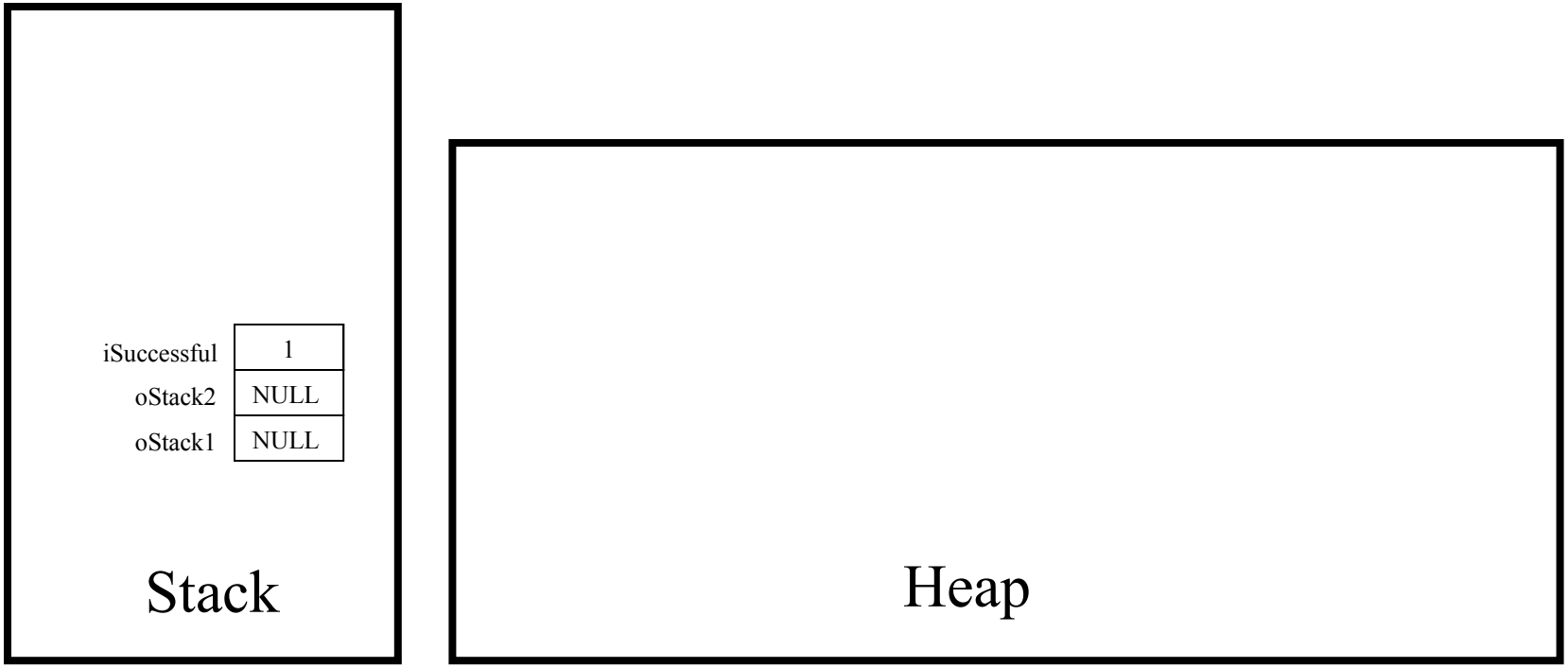
```
oStack2 = NULL;
```



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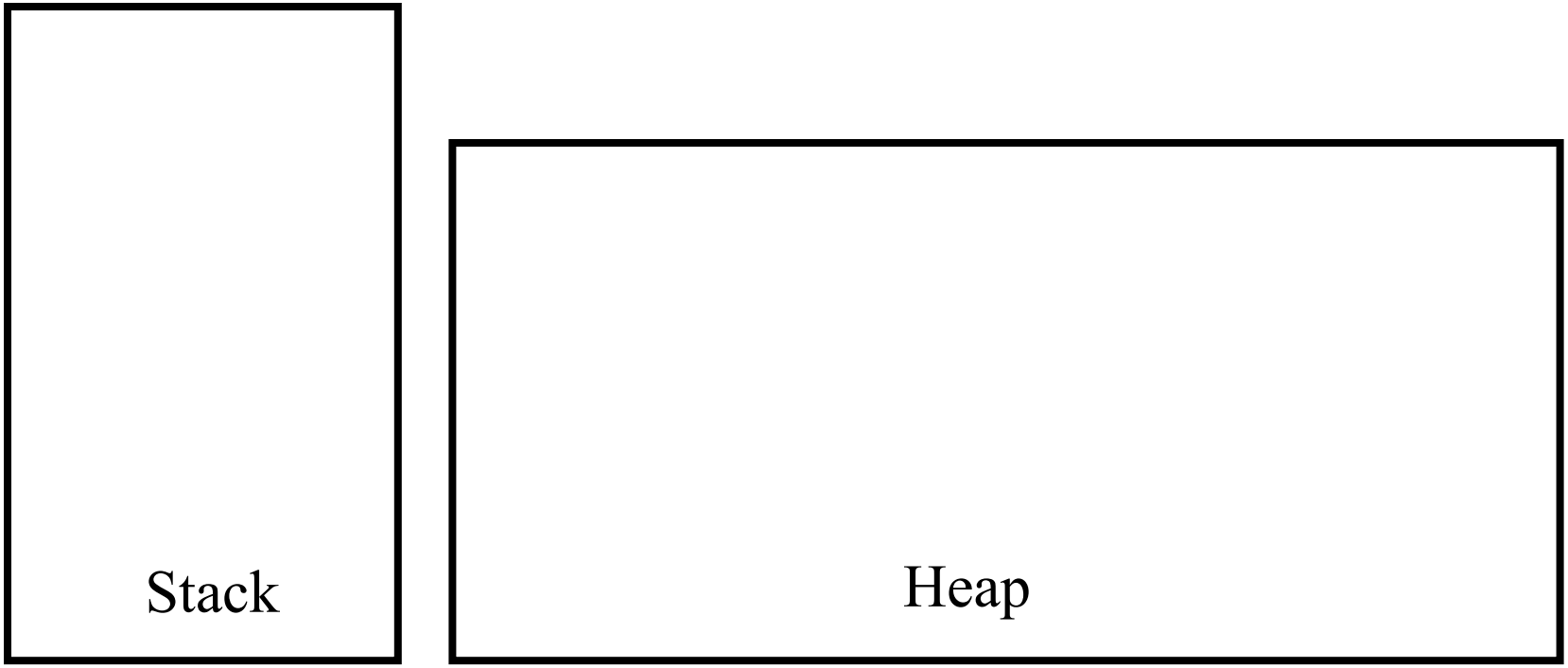
```
return 0;
```



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