

```
%2:
%3 = alloca %struct.DataNode*, align 8
%4 = alloca i32*, align 8
%5 = alloca i64, align 8
store %struct.DataNode* %0, %struct.DataNode** %3, align 8
store i32* %1, i32** %4, align 8
%6 = load %struct.DataNode*, %struct.DataNode** %3, align 8
%7 = icmp ne %struct.DataNode* %6, null
br i1 %7, label %9, label %8
```

T

F

```
%9:
9:
call void @srand(i32 noundef 100) #5
%10 = load %struct.DataNode*, %struct.DataNode** %3, align 8
%11 = getelementptr inbounds %struct.DataNode, %struct.DataNode* %10, i32 0,
... i32 1
%12 = load %struct.Data*, %struct.Data** %11, align 8
%13 = getelementptr inbounds %struct.Data, %struct.Data* %12, i32 0, i32 2
%14 = load i32, i32* %13, align 4
%15 = call i32 (i8*, ...) @printf(i8* noundef getelementptr inbounds ([3 x
... i8], [3 x i8]* @.str, i64 0, i64 0), i32 noundef %14)
store i64 0, i64* %5, align 8
br label %16
```

```
%16:
16:
%17 = load i64, i64* %5, align 8
%18 = load %struct.DataNode*, %struct.DataNode** %3, align 8
%19 = getelementptr inbounds %struct.DataNode, %struct.DataNode* %18, i32 0,
... i32 3
%20 = load i32, i32* %19, align 4
%21 = zext i32 %20 to i64
%22 = icmp ult i64 %17, %21
br i1 %22, label %23, label %79
```

T

F

```
%8:
8:
br label %79
```

```
%23:
23:
%24 = load i32*, i32** %4, align 8
%25 = load %struct.DataNode*, %struct.DataNode** %3, align 8
%26 = getelementptr inbounds %struct.DataNode, %struct.DataNode* %25, i32 0,
... i32 0
%27 = load i64, i64* %5, align 8
%28 = getelementptr inbounds [10 x %struct.DataNode*], [10 x
... %struct.DataNode*]* %26, i64 0, i64 %27
%29 = load %struct.DataNode*, %struct.DataNode** %28, align 8
%30 = getelementptr inbounds %struct.DataNode, %struct.DataNode* %29, i32 0,
... i32 2
%31 = load i32, i32* %30, align 8
%32 = zext i32 %31 to i64
%33 = getelementptr inbounds i32, i32* %24, i64 %32
%34 = load i32, i32* %33, align 4
%35 = icmp ne i32 %34, 0
br i1 %35, label %75, label %36
```

T

F

```
%79:
79:
ret void
```

```
%36:
36:
%37 = getelementptr inbounds %struct.DataNode, %struct.DataNode* %0, i32 0,
... i32 0, i32 0
%38 = load %struct.DataNode*, %struct.DataNode** %37, align 8
call void @llvm.prefetch.p0s_struct.DataNodes(%struct.DataNode* %38, i32 0,
... i32 3, i32 1)
%39 = getelementptr inbounds %struct.DataNode, %struct.DataNode* %0, i32 0,
... i32 0, i32 1
%40 = load %struct.DataNode*, %struct.DataNode** %39, align 8
call void @llvm.prefetch.p0s_struct.DataNodes(%struct.DataNode* %40, i32 0,
... i32 3, i32 1)
%41 = getelementptr inbounds %struct.DataNode, %struct.DataNode* %0, i32 0,
... i32 0, i32 2
%42 = load %struct.DataNode*, %struct.DataNode** %41, align 8
call void @llvm.prefetch.p0s_struct.DataNodes(%struct.DataNode* %42, i32 0,
... i32 3, i32 1)
%43 = getelementptr inbounds %struct.DataNode, %struct.DataNode* %0, i32 0,
... i32 0, i32 3
%44 = load %struct.DataNode*, %struct.DataNode** %43, align 8
call void @llvm.prefetch.p0s_struct.DataNodes(%struct.DataNode* %44, i32 0,
... i32 3, i32 1)
%45 = getelementptr inbounds %struct.DataNode, %struct.DataNode* %0, i32 0,
... i32 0, i32 4
%46 = load %struct.DataNode*, %struct.DataNode** %45, align 8
call void @llvm.prefetch.p0s_struct.DataNodes(%struct.DataNode* %46, i32 0,
... i32 3, i32 1)
%47 = getelementptr inbounds %struct.DataNode, %struct.DataNode* %0, i32 0,
... i32 0, i32 5
%48 = load %struct.DataNode*, %struct.DataNode** %47, align 8
call void @llvm.prefetch.p0s_struct.DataNodes(%struct.DataNode* %48, i32 0,
... i32 3, i32 1)
%49 = getelementptr inbounds %struct.DataNode, %struct.DataNode* %0, i32 0,
... i32 0, i32 6
%50 = load %struct.DataNode*, %struct.DataNode** %49, align 8
call void @llvm.prefetch.p0s_struct.DataNodes(%struct.DataNode* %50, i32 0,
... i32 3, i32 1)
%51 = getelementptr inbounds %struct.DataNode, %struct.DataNode* %0, i32 0,
... i32 0, i32 7
%52 = load %struct.DataNode*, %struct.DataNode** %51, align 8
call void @llvm.prefetch.p0s_struct.DataNodes(%struct.DataNode* %52, i32 0,
... i32 3, i32 1)
%53 = getelementptr inbounds %struct.DataNode, %struct.DataNode* %0, i32 0,
... i32 0, i32 8
%54 = load %struct.DataNode*, %struct.DataNode** %53, align 8
call void @llvm.prefetch.p0s_struct.DataNodes(%struct.DataNode* %54, i32 0,
... i32 3, i32 1)
%55 = getelementptr inbounds %struct.DataNode, %struct.DataNode* %0, i32 0,
... i32 0, i32 9
%56 = load %struct.DataNode*, %struct.DataNode** %55, align 8
call void @llvm.prefetch.p0s_struct.DataNodes(%struct.DataNode* %56, i32 0,
... i32 3, i32 1)
%57 = getelementptr inbounds %struct.DataNode, %struct.DataNode* %0, i32 0,
... i32 1
%58 = load %struct.Data*, %struct.Data** %57, align 8
call void @llvm.prefetch.p0s_struct.Datas(%struct.Data* %58, i32 0, i32 3,
... i32 1)
%59 = load i32*, i32** %4, align 8
%60 = load %struct.DataNode*, %struct.DataNode** %3, align 8
%61 = getelementptr inbounds %struct.DataNode, %struct.DataNode* %60, i32 0,
... i32 0
%62 = load i64, i64* %5, align 8
%63 = getelementptr inbounds [10 x %struct.DataNode*], [10 x
... %struct.DataNode*]* %61, i64 0, i64 %62
%64 = load %struct.DataNode*, %struct.DataNode** %63, align 8
%65 = getelementptr inbounds %struct.DataNode, %struct.DataNode* %64, i32 0,
... i32 2
%66 = load i32, i32* %65, align 8
%67 = zext i32 %66 to i64
%68 = getelementptr inbounds i32, i32* %59, i64 %67
store i32 1, i32* %68, align 4
%69 = load %struct.DataNode*, %struct.DataNode** %3, align 8
%70 = getelementptr inbounds %struct.DataNode, %struct.DataNode* %69, i32 0,
... i32 0
%71 = load i64, i64* %5, align 8
%72 = getelementptr inbounds [10 x %struct.DataNode*], [10 x
... %struct.DataNode*]* %70, i64 0, i64 %71
%73 = load %struct.DataNode*, %struct.DataNode** %72, align 8
%74 = load i32*, i32** %4, align 8
call void @traverseDataLayout(%struct.DataNode* noundef %73, i32* noundef
... %74)
br label %75
```

```
%75:
75:
br label %76
```

```
%76:
76:
%77 = load i64, i64* %5, align 8
%78 = add i64 %77, 1
store i64 %78, i64* %5, align 8
br label %16, !llvm.loop !6
```