```
%10:
 %11 = sext i32 %4 to i64
 %12 = icmp slt i64 %11, 256
 %13 = select i1 %12, i64 %11, i64 256
 %mul.i.i = shl i64 %7, 8
 %mul2.i = mul nsw i32 %5, %3, !llvm.access.group !12
 %add3.i = add nsw i32 %mul2.i, %3, !llvm.access.group !12
 %idxprom4.i = sext i32 %add3.i to i64, !llvm.access.group !12
 %arrayidx5.i = getelementptr inbounds float, float* %1, i64 %idxprom4.i,
... !llvm.access.group !12
 %14 = icmp ugt i64 %13, 1
 %umax = select i1 %14, i64 %13, i64 1
 %min.iters.check = icmp ult i64 %umax, 8
 br i1 %min.iters.check, label %pregion_for_entry.entry.i.preheader, label
... %vector.scevcheck
```

```
vector.scevcheck:
 %ident.check = icmp ne i32 %5, 1
 %15 = add nsw i64 %umax, -1
 %16 = trunc i64 %7 to i32
 %17 = shl i32 %16, 8
 %18 = add i32 %17, %3
 %19 = trunc i64 %15 to i32
 %20 = add i32 %18, %19
 %21 = icmp slt i32 %20, %18
 %22 = icmp ugt i64 %15, 4294967295
 %23 = or i1 %21, %22
 %24 = or i1 %ident.check, %23
 br i1 %24, label %pregion_for_entry.entry.i.preheader, label %vector.ph
```

```
vector.ph:
 %n.vec = and i64 %umax, -8
 br label %vector.body
```

```
vector.body:
 %index = phi i64 [ 0, %vector.ph ], [ %index.next, %vector.body ]
 %25 = add i64 %index, %mul.i.i, !llvm.access.group !12
 %26 = trunc i64 %25 to i32, !llvm.access.group !12
 %27 = mul nsw i32 %26, %5, !llvm.access.group !12
 %28 = add nsw i32 %27, %3, !llvm.access.group !12
 %29 = sext i32 %28 to i64, !llvm.access.group !12
 %30 = getelementptr inbounds float, float* %0, i64 %29, !llvm.access.group
... !12
 %31 = bitcast float* %30 to <8 x float>*
 %wide.load = load <8 x float>, <8 x float>* %31, align 4, !tbaa !14,
... !llvm.access.group !12
 %32 = load float, float* %arrayidx5.i, align 4, !tbaa !14,
... !llvm.access.group !12
 %broadcast.splatinsert = insertelement <8 x float> undef, float %32, i32 0
 %broadcast.splat = shufflevector <8 x float> %broadcast.splatinsert, <8 x
... float> undef, <8 x i32> zeroinitializer
 %33 = fdiv <8 x float> %wide.load, %broadcast.splat, !fpmath !18,
... !llvm.access.group !12
 %34 = getelementptr inbounds float, float* %2, i64 %29, !llvm.access.group
... !12
 %35 = bitcast float* %34 to <8 x float>*
 store <8 x float> %33, <8 x float>* %35, align 4, !tbaa !14,
... !llvm.access.group !12
 %index.next = add i64 %index, 8
 %36 = icmp eq i64 %index.next, %n.vec
 br i1 %36, label %middle.block, label %vector.body, !llvm.loop !19
```

```
middle.block:
 %cmp.n = icmp eq i64 %umax, %n.vec
 br i1 %cmp.n, label %gramschmidt_kernel2.exit, label
... %pregion_for_entry.entry.i.preheader
```

```
pregion_for_entry.entry.i.preheader:
 %_local_id_x.0.ph = phi i64 [ 0, %vector.scevcheck ], [ 0, %10 ], [ %n.vec,
... %middle.block ]
 br label %pregion_for_entry.entry.i
```

```
pregion_for_entry.entry.i:
 %_local_id_x.0 = phi i64 [ %39, %pregion_for_entry.entry.i ], [
... %_local_id_x.0.ph, %pregion_for_entry.entry.i.preheader ]
 %add1.i.i = add i64 %_local_id_x.0, %mul.i.i, !llvm.access.group !12
 %conv.i = trunc i64 %add1.i.i to i32, !llvm.access.group !12
 %mul.i = mul nsw i32 %conv.i, %5, !llvm.access.group !12
 %add.i = add nsw i32 %mul.i, %3, !llvm.access.group !12
 %idxprom.i = sext i32 %add.i to i64, !llvm.access.group !12
 %arrayidx.i = getelementptr inbounds float, float* %0, i64 %idxprom.i,
... !llvm.access.group !12
 %37 = load float, float* %arrayidx.i, align 4, !tbaa !14, !llvm.access.group
... !12
 %38 = load float, float* %arrayidx5.i, align 4, !tbaa !14,
... !llvm.access.group !12
 %div.i = fdiv float %37, %38, !fpmath !18, !llvm.access.group !12
 %arrayidx9.i = getelementptr inbounds float, float* %2, i64 %idxprom.i,
... !llvm.access.group !12
 store float %div.i, float* %arrayidx9.i, align 4, !tbaa !14,
... !llvm.access.group !12
 %39 = add nuw i64 %_local_id_x.0, 1
 %exitcond.not = icmp eq i64 %39, %umax
 br i1 %exitcond.not, label %gramschmidt_kernel2.exit.loopexit, label
... %pregion_for_entry.entry.i, !llvm.loop !22
```

```
gramschmidt_kernel2.exit.loopexit:
 br label %gramschmidt_kernel2.exit
```

```
gramschmidt_kernel2.exit:
 ret void
```

CFG for '_pocl_kernel_gramschmidt_kernel2' function