```
entry:
                                                                                           tail call void asm sideeffect "NOP
                                                                                           %scevgep = getelementptr i32, i32* %a, i64 1000
                                                                                            %scevgep40 = getelementptr i32, i32* %b, i64 1000
                                                                                            %bound0 = icmp ugt i32* %scevgep40, %a
                                                                                            %bound1 = icmp ugt i32* %scevgep, %b
                                                                                            %found.conflict = and i1 %bound1, %bound0
                                                                                            \%0 = \text{bitcast i32* \%a to } < 4 \times \text{i32>*}
                                                                                            %1 = getelementptr inbounds i32, i32* %a, i64 4
                                                                                            \%2 = \text{bitcast i} 32*\%1 \text{ to } <4 \text{ x i} 32>*
                                                                                            %3 = bitcast i32* %b to <4 x i32>*
                                                                                            \%4 = getelementptr inbounds i32, i32* %b, i64 4 %5 = bitcast i32* %4 to <4 x i32>*
                                                                                            br label %vector.memcheck
                                                                                     vector.memcheck:
                                                                                     %j.032 = phi i32 [ 0, %entry ], [ %inc15, %for.cond.cleanup3 ]
                                                                                     br i1 %found.conflict, label %for.body4.preheader, label
                                                                                     ... %vector.body.preheader
                                                                                                         50.00%
                                                                                                                                                                                         50.00%
                                                                                                                                            vector.body.preheader:
                                                                                                                                             store <4 x i32> <i32 0, i32 2, i32 4, i32 6>, <4 x i32>* %0, align 4, !tbaa
                                                                                                                                             ... !34, !alias.scope !38, !noalias !41
                                                                                                                                             store <4 x i32> <i32 8, i32 10, i32 12, i32 14>, <4 x i32>* %2, align 4,
                                                                       for.body4.preheader:
                                                                                                                                            ...!tbaa!34,!alias.scope!38,!noalias!41
                                                                                                                                             store <4 x i32> <i32 10, i32 11, i32 12, i32 13>, <4 x i32>* %3, align 4,
                                                                       br label %for.body4
                                                                                                                                            ...!tbaa!34,!alias.scope!41
                                                                                                                                             store <4 x i32> <i32 14, i32 15, i32 16, i32 17>, <4 x i32>* %5, align 4,
                                                                                                                                             ...!tbaa!34,!alias.scope!41
                                                                                                                                             br label %vector.body.1
                                                                                                                                                vector.body.1:
                                                                                                                                                %index.next5 = phi i64 [ 8, %vector.body.preheader ], [ %index.next,
                                                                                                                                                 .. %vector.body.1 1
                                                                                                                                                \%6 = phi < 4 \times i32 > [< i32 0, i32 2, i32 4, i32 6>, %vector.body.preheader],
                                                                                                                                                ... [ %20, %vector.body.1 ]
                                                                                                                                                %vec.ind474 = phi <4 \times i32> [ <i32.0, i32.1, i32.2, i32.3>,
                                                                                                                                                 .. %vector.body.preheader ], [ %vec.ind.next50.1, %vector.body.1 ]
                                                                                                                                                %vec.ind433 = phi <4 \times i32> [ <i32.0, i32.1, i32.2, i32.3>,
                                                                                                                                                 .. %vector.body.preheader ], [ %vec.ind.next46.1, %vector.body.1 ]
                                                                                                                                                %index2 = phi i64 [ 0, %vector.body.preheader ], [ %index.next.1,
                                                                                                                                                 . %vector.bodv.1 1
                                                                                                                                                %7 = getelementptr inbounds i32, i32* %a, i64 %index.next5
                                                                                                                                                %8 = add <4 x i32> %6, <i32 16, i32 16, i32 16, i32 16>
                                                                                                                                                \%9 = \text{add} < 4 \times i32 > \%6, < i32\ 24, i32\ 24, i32\ 24, i32\ 24 > \%6
                                                                                                                                                %10 = bitcast i32* \%7 to <4 x i32>*
                                                                                                                                                store <4 x i32> %8, <4 x i32>* %10, align 4, !tbaa !34, !alias.scope !38,
                                                                                                                                                ... !noalias !41
                                                                                                                                                 %11 = getelementptr inbounds i32, i32* %7, i64 4
for.body4:
  %indvars.iv = phi i64 [ %indvars.iv.next.1, %for.body4 ], [ 0,
                                                                                                                                                %12 = bitcast i32* %11 to <4 x i32>*
  ... %for.body4.preheader ]
                                                                                                                                                store <4 x i32> %9, <4 x i32>* %12, align 4, !tbaa !34, !alias.scope !38,
 %arrayidx = getelementptr inbounds i32, i32* %a, i64 %indvars.iv
                                                                                                                                                ... !noalias !41
  %indvars.iv.tr = trunc i64 %indvars.iv to i32
                                                                                                                                                %13 = getelementptr inbounds i32, i32* %b, i64 %index.next5
  %32 = shl i32 %indvars.iv.tr, 1
                                                                                                                                                %14 = add <4 x i32> %vec.ind474, <i32 18, i32 18, i32 18, i32 18>
 store i32 %32, i32* %arrayidx, align 4, !tbaa !34
                                                                                                                                                %15 = add <4 x i32> %vec.ind474, <i32 22, i32 22, i32 22, i32 22>
  %arrayidx6 = getelementptr inbounds i32, i32* %b, i64 %indvars.iv
                                                                                                                                                %16 = bitcast i32* %13 to <4 x i32>*
  %33 = add nuw nsw i32 %indvars.iv.tr, 10
                                                                                                                                                store <4 x i32> %14, <4 x i32>* %16, align 4, !tbaa !34, !alias.scope !41
  store i32 %33, i32* %arrayidx6, align 4, !tbaa !34
                                                                                                                                                %17 = getelementptr inbounds i32, i32* %13, i64 4
                                                                                                                                                %18 = bitcast i32* \%17 to <4 x i32>*
  %indvars.iv.next = or i64 %indvars.iv, 1
  %arrayidx.1 = getelementptr inbounds i32, i32* %a, i64 %indvars.iv.next
                                                                                                                                                store <4 x i32> %15, <4 x i32>* %18, align 4, !tbaa !34, !alias.scope !41
                                                                                                              96.88%
                                                                                                                                96.88%
                                                                                                                                                                                                                                                                 96.88%
  %indvars.iv.tr.1 = trunc i64 %indvars.iv.next to i32
                                                                                                                                                 %index.next.1 = add nuw nsw i64 %index2, 16
  %34 = shl i32 %indvars.iv.tr.1, 1
                                                                                                                                                %vec.ind.next46.1 = add <4 x i32> %vec.ind433, <i32 16, i32 16, i32 16, i32
 store i32 %34, i32* %arrayidx.1, align 4, !tbaa !34
                                                                                                                                                 .. 16>
  %arrayidx6.1 = getelementptr inbounds i32, i32* %b, i64 %indvars.iv.next
                                                                                                                                                %vec.ind.next50.1 = add <4 x i32> %vec.ind474, <i32 16, i32 16, i32 16, i32
  %35 = add nuw nsw i32 %indvars.iv.tr.1, 10
                                                                                                                                                 .. 16>
 store i32 %35, i32* %arrayidx6.1, align 4, !tbaa !34 %indvars.iv.next.1 = add nuw nsw i64 %indvars.iv, 2
                                                                                                                                                %19 = getelementptr inbounds i32, i32* %a, i64 %index.next.1
                                                                                                                                                 \%20 = \text{shl} < 4 \times i32 > \% \text{vec.ind.next46.1}, < i32.1, i32.1, i32.1 > i32.
  %exitcond.not.1 = icmp eq i64 %indvars.iv.next.1, 1000
                                                                                                                                                %21 = add < 4 \times i32 > %20, < i32 8, i32 8, i32 8, i32 8 > %20
  br i1 %exitcond.not.1, label %for.cond.cleanup3.loopexit, label %for.body4,
                                                                                                                                                %22 = bitcast i32* %19 to <4 x i32>*
  ...!llvm.loop!47
                                                                                                                                                store <4 x i32> %20, <4 x i32>* %22, align 4, !tbaa !34, !alias.scope !38,
                                                                                                                                                 .. !noalias !41
                                                                                                                                                %23 = getelementptr inbounds i32, i32* %19, i64 4
                                                                                                                                                %24 = bitcast i32* %23 to <4 x i32>*
                                                                                                                                                store <4 x i32> %21, <4 x i32>* %24, align 4, !tbaa !34, !alias.scope !38,
                                                                                                                                                 .. !noalias !41
                                                                                                                                                %25 = getelementptr inbounds i32, i32* %b, i64 %index.next.1
                                                                                                                                                %26 = add <4 x i32> %vec.ind474, <i32 26, i32 26, i32 26, i32 26>
                                                                                                                                                %27 = add <4 x i32> %vec.ind474, <i32 30, i32 30, i32 30, i32 30>
                                                                                                                                                %28 = bitcast i32* %25 to <4 x i32>*
                                                                                                                                                store <4 x i32> %26, <4 x i32>* %28, align 4, !tbaa !34, !alias.scope !41
                                                                                                                                                 %29 = getelementptr inbounds i32, i32* %25, i64 4
                                                                                                                                                %30 = bitcast i32*\%29 to <4 x i32>*
                                                                                                                                                store <4 x i32> %27, <4 x i32>* %30, align 4, !tbaa !34, !alias.scope !41
                                                                                                                                                 %index.next = or i64 %index.next.1, 8
                                                                                                                                                 %31 = icmp eq i64 %index.next, 1000
                                                                                                                                                br i1 %31, label %for.cond.cleanup3.loopexit10, label %vector.body.1,
                                                                                                                                                 ..!llvm.loop!43
                                                                     3.12%
                                                                                                                                                                         3.12%
                                                                                                                                              for.cond.cleanup3.loopexit10:
                                                              for.cond.cleanup3.loopexit:
                                                                                                                                              br label %for.cond.cleanup3
                                                                br label %for.cond.cleanup3
                                                  for.cond.cleanup3:
                                                   %inc15 = add nuw nsw i32 %j.032, 1
                                                   %exitcond36.not = icmp eq i32 %inc15, 1000
                                                   br i1 %exitcond36.not, label %for.cond.cleanup, label %vector.memcheck,
                                                   ...!llvm.loop!46
                                                                           3.12%
                                                             for.cond.cleanup:
                                                                ret void
```