```
push %rbp
                            push %r15
                           push %r14
                           push %r13
                            push %r12
                            push %rbx
                            mov 0x60(%rdi),%rax
                            mov (%rsi),%rdx
                            imul %rax,%rdx
                            add 0x30(%rdi),%rdx
                           movslq 0x1c(%rdi),%rcx
                            add %rdx,%rax
                            cmp %rcx,%rax
                           mov %rcx,%r13
                            cmovle %rax,%r13
                            test %rcx,%rcx
                            cmovs %rax.%r13
                            mov %rdx,-0x8(%rsp)
                            sub %rdx,%r13
                            test %r13,%r13
                            jle 0x7ffff7fcb64a <gramschmidt kernel2+522>
                                   No Jump
                                                           Jump
               mov (%rdi),%rax
               mov %rax,-0x10(%rsp)
               mov 0x8(%rdi),%r12
               mov 0x10(%rdi), %rax
               mov %rax,-0x18(%rsp)
               movslq 0x18(%rdi),%rax
               mov %rax,-0x20(%rsp)
               mov 0x20(%rdi),%eax
               mov \%eax, -0x24(\%rsp)
               mov %r13,%rcx
               sar $0x3,%rcx
               mov %r13,%rax
               and $0xfffffffffffff8,%rax
               sub %rax,%r13
               test %rcx,%rcx
               je 0x7ffff7fcb600 < gramschmidt kernel2+448>
                       No Jump
                                               Jump
          mov -0x24(\%rsp),\%edx
          vmovd %edx,%xmm0
          vpbroadcastd %xmm0,%ymm0
          mov -0x20(\%rsp),\%rdi
          imul %edi,%edx
          mov - 0x10(\%rsp), \%rsi
          lea (%rsi,%rdi,4),%rbx
          add %edi,%edx
          movslq %edx,%r15
          mov -0x18(\%rsp),\%rdx
          lea (%rdx,%rdi,4),%rbp
         mov -0x8(%rsp),%rdx
          vmovd %edx,%xmm1
          vpbroadcastd %xmm1,%ymm1
          movabs $0x7ffff7fca000,%rdx
          vpaddd (%rdx),%ymm1,%ymm1
          vpmulld %ymm0,%ymm1,%ymm0
          vpextrd $0x1,%xmm0,%edx
          vmovd %xmm0,%esi
          sub %esi,%edx
          shl $0x3,\%edx
         vmovd %edx,%xmm1
          vpbroadcastd %xmm1,%ymm1
            nopw %cs:0x0(%rax,%rax,1)
vpextrq $0x1,%xmm0,%rdi
vmovq %xmm0,%r10
vextracti128 $0x1,%ymm0,%xmm2
vmovq %xmm2,%rdx
movslq %r10d,%r8
sar $0x20,%r10
movslq %edi,%r9
vpextrq $0x1,%xmm2,%rsi
movslq %edx,%r11
sar $0x20,%rdx
movslq %esi,%r14
sar $0x20,%rsi
vmovss (%rbx,%r11,4),%xmm2
vmovss (%rbx,%r8,4),%xmm3
vinsertps $0x10,(%rbx,%rdx,4),%xmm2,%xmm2
vinsertps $0x10,(%rbx,%r10,4),%xmm3,%xmm3
vinsertps $0x20,(%rbx,%r14,4),%xmm2,%xmm2
vinsertps $0x20,(%rbx,%r9,4),%xmm3,%xmm3
vinsertps $0x30,(%rbx,%rsi,4),%xmm2,%xmm2
sar $0x20,%rdi
vinsertps $0x30,(%rbx,%rdi,4),%xmm3,%xmm3
vinsertf128 $0x1,%xmm2,%ymm3,%ymm2
vbroadcastss (%r12,%r15,4),%ymm3
vdivps %ymm3,%ymm2,%ymm2
vmovss %xmm2,0x0(%rbp,%r8,4)
vextractps $0x1,\%xmm2,0x0(\%rbp,\%r10,4)
vextractps $0x2,\%xmm2,0x0(\%rbp,\%r9,4)
vextractps $0x3,\%xmm2,0x0(\%rbp,\%rdi,4)
vextractf128 $0x1,%ymm2,%xmm2
vmovss %xmm2,0x0(%rbp,%r11,4)
vextractps $0x1,\%xmm2,0x0(\%rbp,\%rdx,4)
vpaddd %ymm1,%ymm0,%ymm0
vextractps $0x2,%xmm2,0x0(%rbp,%r14,4)
add $0xfffffffffffffff,%rcx
vextractps $0x3,\%xmm2,0x0(\%rbp,\%rsi,4)
jne 0x7ffff7fcb530 < gramschmidt kernel2+240>
       No Jump
                                Jump
                test %r13,%r13
                mov - 0x10(\%rsp), \%rdx
                mov -0x18(\%rsp),\%rsi
                mov -0x24(\%rsp),\%edi
               je 0x7ffff7fcb64a < gramschmidt kernel2+522>
                       No Jump
                                               Jump
                mov %edi.%ecx
                mov -0x20(\%rsp),\%rbp
                imul %ebp,%ecx
                add -0x8(%rsp),%rax
                add %ebp,%ecx
                movslq %ecx,%rcx
                imul %edi,%eax
                add %ebp,%eax
                    nopl 0x0(\%rax)
     cltq
    vmovss (%rdx,%rax,4),%xmm0
    vdivss (%r12,%rcx,4),%xmm0,%xmm0
    vmovss %xmm0,(%rsi,%rax,4)
     add %edi,%eax
    add $0xfffffffffffff,%r13
    jne 0x7ffff7fcb630 < gramschmidt kernel2+496>
            No Jump
                                     Jump
                                                  pop %rbx
                                                  pop %r12
                                                  pop %r13
                                                  pop %r14
                                                  pop %r15
                                                  pop %rbp
                                                  vzeroupper
                                                      ret
```

gramschmidt kernel2