```
File
             Sort metric
 Load...
             At t-end (bytes)
Invocation {
  Mode:
           hean
  Command: ./target/debug/rusty-v8-memtest
  PID:
           24968
  t-gmax: 28.090.907 instrs (91.37% of program duration)
  t-end: 30,744,409 instrs
▼ PP 1/1 (5 children) {
               2,708,886 bytes (100%, 88,109.87/Minstr) in 2,890 blocks (100%, 94/Minstr), avg size 937.33 bytes, avg lifetime 9,413,096.73 instrs (30.62% of program duration)
    At t-gmax: 639,278 bytes (100%) in 1,034 blocks (100%), avg size 618.26 bytes
    At t-end: 33,909 bytes (100%) in 657 blocks (100%), avg size 51.61 bytes
              11,190,119 bytes (100%, 363,972.49/Minstr), 4.13/byte 3,589,676 bytes (100%, 116,758.66/Minstr), 1.33/byte
    Allocated at {
     #0: [root]
   PP 1.1/5 (3 children) {
                   1,491,824 bytes (55.07%, 48,523.42/Minstr) in 141 blocks (4.88%, 4.59/Minstr), avg size 10,580.31 bytes, avg lifetime 796,969.69 instrs (2.59% of program duration)
        At t-gmax: 200,880 bytes (31.42%) in 12 blocks (1.16%), avg size 16,740 bytes
        At t-end: 16,384 bytes (48.32%) in 2 blocks (0.3%), avg size 8,192 bytes
                   1,868,249 bytes (16.7%, 60,767.11/Minstr), 1.25/byte 1,041,623 bytes (29.02%, 33,880.08/Minstr), 0.7/byte
        Writes:
        Allocated at {
          #1: 0xA8F26F: v8::internal::AllocAtLeastWithRetry(unsigned long) (allocation.cc:135)
          #2: 0xA9207B: v8::internal::AccountingAllocator::AllocateSegment(unsigned long, bool) (accounting-allocator.cc:94)
          #3: 0xA922D3: v8::internal::Zone::Expand(unsigned long) (zone.cc:164)
           PP 1.1.1/3 {
            Total:
                       8,192 bytes (0.3%, 266.45/Minstr) in 1 blocks (0.03%, 0.03/Minstr), avg size 8,192 bytes, avg lifetime 29,136,345 instrs (94.77% of program duration)
                       8,192 bytes in 1 blocks, avg size 8,192 bytes
            At t-gmax: 8,192 bytes (1.28%) in 1 blocks (0.1%), avg size 8,192 bytes
            At t-end: 8,192 bytes (24.16%) in 1 blocks (0.15%), avg size 8,192 bytes
                       16 bytes (0%, 0.52/Minstr), 0/byte
            Reads:
                       766 bytes (0.02%, 24.92/Minstr), 0.09/byte
            Allocated at {
              ^1: 0xA8F26F: v8::internal::AllocAtLeastWithRetry(unsigned long) (allocation.cc:135)
              ^2: 0xA9207B: v8::internal::AccountingAllocator::AllocateSegment(unsigned long, bool) (accounting-allocator.cc:94)
              ^3: 0xA922D3: v8::internal::Zone::Expand(unsigned long) (zone.cc:164)
              #4: 0x11F46F7: v8::internal::compiler::Linkage::GetStubCallDescriptor(v8::internal::Zone*, v8::internal::CallInterfaceDescriptor const&, int, v8::base::Flags<v8::internal::compiler::CallDescriptor::Flag
              #5: 0xCD73B3: v8::internal::compiler::GetBuiltinCallDescriptor(v8::internal::Builtin, v8::internal::Zone*, v8::internal::StubCallMode, bool, v8::base::Flags<v8::internal::compiler::Operator::Property, un
              #6: 0xCB0F83: v8::internal::compiler::WasmCallDescriptors::WasmCallDescriptors(v8::internal::AccountingAllocator*) (wasm-call-descriptors.cc:16)
              #7: 0xB17E03: v8::internal::wasm::WasmEngine::WasmEngine() (wasm-engine.cc:446)
              #8: 0xB1FE6B: v8::internal::wasm::WasmEngine::InitializeOncePerProcess() (wasm-engine.cc:1809)
              #9: 0x80AD9B: v8::internal::V8::Initialize() (v8.cc:285)
              #10: 0x683897: v8::V8::Initialize(int) (api.cc:6351)
              #11: 0x65E9C3: v8::V8::initialize (V8.rs:201)
          PP 1.1.2/3 {
            Total:
                       8,192 bytes (0.3%, 266.45/Minstr) in 1 blocks (0.03%, 0.03/Minstr), avg size 8,192 bytes, avg lifetime 21,611,126 instrs (70.29% of program duration)
                       8,192 bytes in 1 blocks, avg size 8,192 bytes
            At t-amax: 8.192 bytes (1.28%) in 1 blocks (0.1%), avg size 8.192 bytes
            At t-end: 8,192 bytes (24.16%) in 1 blocks (0.15%), avg size 8,192 bytes
            Reads:
                       16 bytes (0%, 0.52/Minstr), 0/byte
            Writes:
                       68 bytes (0%, 2.21/Minstr), 0.01/byte
            Allocated at {
              ^1: 0xA8F26F: v8::internal::AllocAtLeastWithRetry(unsigned long) (allocation.cc:135)
              ^2: 0xA9207B: v8::internal::AccountingAllocator::AllocateSegment(unsigned long, bool) (accounting-allocator.cc:94)
              ^3: 0xA922D3: v8::internal::Zone::Expand(unsigned long) (zone.cc:164)
              #4: 0xABE3E7: v8::internal::wasm::TypeCanonicalizer::AddRecursiveGroup(v8::internal::Signature<v8::internal::wasm::ValueType> const*) (canonical-types.cc:80)
              #5: 0xB28437: v8::internal::WasmJs::Install(v8::internal::Isolate*, bool) (wasm-js.cc:3145)
              #6: 0x80948B: v8::internal::Genesis::InstallSpecialObjects(v8::internal::Isolate*, v8::internal::Handle<v8::internal::Context>) (bootstrapper.cc:0)
              #7: 0x7EE1E3: v8::internal::Bootstrapper::CreateEnvironment(v8::internal::MaybeHandle<v8::internal::JSGlobalProxy>, v8::Local<v8::ObjectTemplate>, v8::ExtensionConfiguration*, unsigned long, v8::Deseria
              #8: 0x683E83: v8::NewContext(v8::Isolate*, v8::ExtensionConfiguration*, v8::MaybeLocal<v8::ObjectTemplate>, v8::MaybeLocal<v8::Value>, unsigned long, v8::DeserializeInternalFieldsCallback, v8::Microtask(
              #9: 0x40C587: v8::context::<impl v8::data::Context>::new_from_template::{{closure}} (context.rs:84)
```

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#10: 0x26B4F7: cast local<v8::data::Context, v8::context::{impl#0}::new from template::{closure env#0}> (scope.rs:239)
                  #11: 0x26B4F7: new from template (context.rs:83)
                  #12: 0x26B4F7: deno_core::runtime::jsruntime::create_context (jsruntime.rs:1725)
                  #13: 0x26243F: deno core::runtime::jsruntime::JsRuntime::new inner (jsruntime.rs:675)
          PP 1.1.3/3 {
              At t-end: 0 bytes (0%)
              Allocated at {
                  [23 insignificant]
▼ PP 1.2/5 (6 children) {
                          1,033,512 bytes (38.15%, 33,616.26/Minstr) in 2,626 blocks (90.87%, 85.41/Minstr), avg size 393.57 bytes, avg lifetime 9,873,681.81 instrs (32.12% of program duration)
       At t-qmax: 369,568 bytes (57.81%) in 976 blocks (94.39%), avg size 378.66 bytes
       At t-end: 12,487 bytes (36.83%) in 631 blocks (96.04%), avg size 19.79 bytes
                           8,376,311 bytes (74.85%, 272,449.89/Minstr), 8.1/byte
                        2,294,320 bytes (63.91%, 74,625.6/Minstr), 2.22/byte
       Writes:
       Allocated at {
          #1: 0x66F09B: operator new(unsigned long) (new.cpp:67)
           PP 1.2.1/6 {
                                  4,096 bytes (0.15%, 133.23/Minstr) in 1 blocks (0.03%, 0.03/Minstr), avg size 4,096 bytes, avg lifetime 14,157,728 instrs (46.05% of program duration)
              Total:
              Max:
                                  0 bytes in 0 blocks, avg size 0 bytes
              At t-gmax: 4,096 bytes (0.64%) in 1 blocks (0.1%), avg size 4,096 bytes
              At t-end: 4,096 bytes (12.08%) in 1 blocks (0.15%), avg size 4,096 bytes
                                  0 bytes (0%, 0/Minstr), 0/byte
                                  8 bytes (0%, 0.26/Minstr), 0/byte
              Writes:
              Allocated at {
                  ^1: 0x66F09B: operator new(unsigned long) (new.cpp:67)
                  #2: 0x66C65F: std::Cr::degue<std::Cr::degue< std::Cr::degue | std::Cr::deg
                  #3: 0x66C0E7: v8::platform::DelayedTaskQueue::Append(std::Cr::unique ptr<v8::Task, std::Cr::default delete<v8::Task> >) (delayed-task-queue.cc:28)
                  #4: 0x66B7AB: v8::platform::DefaultWorkerThreadsTaskRunner::PostTask(std::Cr::unique_ptr<v8::Task, std::Cr::default_delete<v8::Task> >) (default-worker-threads-task-runner.cc:42)
                  #5: 0x66960B: v8::Platform::CallOnWorkerThread(std::Cr::unique_ptr<v8::Task, std::Cr::default_delete<v8::Task> >) (v8-platform.h:1082)
                  #6: 0xE97497: v8::platform::DefaultJobState::NotifyConcurrencyIncrease() (default-job.cc:59)
                  #7: 0xEFA0CB: v8::internal::baseline::BaselineBatchCompiler::EnqueueFunction(v8::internal::Handle<v8::internal::JSFunction>) (baseline-batch-compiler.cc:266)
                  #8: 0xF791F3: v8::internal::TieringManager::OnInterruptTick(v8::internal::Handle<v8::internal::JSFunction>, v8::internal::CodeKind) (tiering-manager.cc:431)
                  #9: 0x101EA87: v8::internal::(anonymous namespace)::BytecodeBudgetInterruptWithStackCheck(v8::internal::Arguments<(v8::internal::ArgumentsType)0>&, v8::internal::CodeKind) (runting the content of the c
                  #10: 0x101D217: v8::internal::Runtime_BytecodeBudgetInterruptWithStackCheck_Ignition(int, unsigned long*, v8::internal::Isolate*) (runtime-internal.cc:434)
                  #11: 0xD76C23: Builtins CEntry Return ArgyOnStack NoBuiltinExit (in /opt/rusty-v8-memtest/target/debug/rusty-v8-memtest)
      PP 1.2.2/6 (1 children) {
                                  72,630 bytes (2.68%, 2,362.38/Minstr) in 654 blocks (22.63%, 21.27/Minstr), avg size 111.06 bytes, avg lifetime 23,090,587.33 instrs (75.1% of program duration)
              At t-gmax: 30,194 bytes (4.72%) in 519 blocks (50.19%), avg size 58.18 bytes
              At t-end: 3,554 bytes (10.48%) in 514 blocks (78.23%), avg size 6.91 bytes
                              1,380,330 bytes (12.34%, 44,896.94/Minstr), 19/byte
              Writes: 275,249 bytes (7.67%, 8,952.81/Minstr), 3.79/byte
              Allocated at {
                  ^1: 0x66F09B: operator new(unsigned long) (new.cpp:67)
                  #2: 0x66F143: operator new[](unsigned long, std::nothrow_t const&) (new.cpp:119)
                  PP 1.2.2.1/1 {
                     At t-end: 3,554 bytes (10.48%)
                     Allocated at {
                         [520 insignificant]
          PP 1.2.3/6 {
              At t-end: 3,181 bytes (9.38%)
              Allocated at {
                  [254 insignificant]
           PP 1.2.4/6 {
                                  784 bytes (0.03%, 25.5/Minstr) in 1 blocks (0.03%, 0.03/Minstr), avg size 784 bytes, avg lifetime 29,137,062 instrs (94.77% of program duration)
              Total:
                                  784 bytes in 1 blocks, avg size 784 bytes
              At t-gmax: 784 bytes (0.12%) in 1 blocks (0.1%), avg size 784 bytes
              At t-end: 784 bytes (2.31%) in 1 blocks (0.15%), avg size 784 bytes
              Reads:
                                  1,868 bytes (0.02%, 60.76/Minstr), 2.38/byte
                                  2,434 bytes (0.07%, 79.17/Minstr), 3.1/byte
              Writes:
              Accesses: {
```

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[768] 2 " " " 4 " " " 2 " " " " " " "
  Allocated at {
    ^1: 0x66F09B: operator new(unsigned long) (new.cpp:67)
    #2: 0xB1FE4B: v8::internal::wasm::WasmEngine::InitializeOncePerProcess() (wasm-engine.cc:1809)
    #3: 0x80AD9B: v8::internal::V8::Initialize() (v8.cc:285)
    #4: 0x683897: v8::V8::Initialize(int) (api.cc:6351)
    #5: 0x65E9C3: v8::V8::initialize (V8.rs:201)
    #6: 0x260C1F: deno_core::runtime::jsruntime::v8_init (jsruntime.rs:363)
    #7: 0x26125B: deno_core::runtime::jsruntime::JsRuntime::init_v8::{{closure}} (jsruntime.rs:546)
    #8: 0x244A9F: std::sync::once::Once::call_once::{{closure}} (once.rs:149)
    #9: 0x41457F: std::sys common::once::futex::Once::call (futex.rs:124)
    #10: 0x24497F: std::sync::once::Once::call once (once.rs:149)
    #11: 0x2610C7: deno core::runtime::jsruntime::JsRuntime::init v8 (jsruntime.rs:545)
PP 1.2.5/6 {
  Total:
               520 bytes (0.02%, 16.91/Minstr) in 5 blocks (0.17%, 0.16/Minstr), avg size 104 bytes, avg lifetime 29,357,300.8 instrs (95.49% of program duration)
  Max:
               520 bytes in 5 blocks, avg size 104 bytes
  At t-gmax: 520 bytes (0.08%) in 5 blocks (0.48%), avg size 104 bytes
  At t-end: 520 bytes (1.53%) in 5 blocks (0.76%), avg size 104 bytes
  Reads:
               906 bytes (0.01%, 29.47/Minstr), 1.74/byte
  Writes:
               720 bytes (0.02%, 23.42/Minstr), 1.38/byte
  Accesses: {
   [64] 13 " " " " " " 20 " " " 8 " " " 9 " " " 6 " " " 16 " " " 31 " " "
   [ 96] 26 " " " 9 " " "
  Allocated at {
    ^1: 0x66F09B: operator new(unsigned long) (new.cpp:67)
    #2: 0x66B50F: v8::platform::DefaultWorkerThreadsTaskRunner::DefaultWorkerThreadsTaskRunner(unsigned int, double (*)(), v8::base::Thread::Priority) (default—worker—threads—task—runner.cc:18)
    #3: 0x66A137: v8::platform::DefaultPlatform::EnsureBackgroundTaskRunnerInitialized() (default-platform.cc:141)
    #4: 0x669E93: v8::platform::NewDefaultPlatform(int, v8::platform::IdleTaskSupport, v8::platform::InProcessStackDumping, std::Cr::unique_ptr<v8::TracingController, std::Cr::default_delete<v8::TracingController, std::TracingController, std::Tracing
    #5: 0x260C93: new (platform.rs:133)
    #6: 0x260C93: new_default_platform (platform.rs:80)
    #7: 0x260C93: deno core::runtime::jsruntime::v8 init::{{closure}} (jsruntime.rs:361)
    #8: 0x24C49F: core::option::Option<T>::unwrap_or_else (option.rs:979)
    #9: 0x260C03: deno_core::runtime::jsruntime::v8_init (jsruntime.rs:360)
    #10: 0x26125B: deno core::runtime::jsruntime::JsRuntime::init v8::{{closure}} (jsruntime.rs:546)
    #11: 0x244A9F: std::sync::once::Once::({closure}) (once.rs:149)
    #12: 0x41457F: std::sys_common::once::futex::Once::call (futex.rs:124)
    #13: 0x24497F: std::sync::once::Once::call_once (once.rs:149)
PP 1.2.6/6 {
 Total:
               352 bytes (0.01%, 11.45/Minstr) in 1 blocks (0.03%, 0.03/Minstr), avg size 352 bytes, avg lifetime 29,225,455 instrs (95.06% of program duration)
               352 bytes in 1 blocks, avg size 352 bytes
  At t-gmax: 352 bytes (0.06%) in 1 blocks (0.1%), avg size 352 bytes
  At t-end: 352 bytes (1.04%) in 1 blocks (0.15%), avg size 352 bytes
               289 bytes (0%, 9.4/Minstr), 0.82/byte
  Reads:
              350 bytes (0.01%, 11.38/Minstr), 0.99/byte
  Writes:
  Accesses: {
```

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[ 32] 1 " " " - - - - 1 " " " " " " " 2 3 2 " " " " " " " " "
                  Allocated at {
                  ^1: 0x66F09B: operator new(unsigned long) (new.cpp:67)
                  #2: 0x7EDF27: v8::internal::Bootstrapper::InitializeOncePerProcess() (bootstrapper.cc:153)
                  #3: 0x80AD7F: v8::internal::V8::Initialize() (v8.cc:276)
                  #4: 0x683897: v8::V8::Initialize(int) (api.cc:6351)
                  #5: 0x65E9C3: v8::V8::initialize (V8.rs:201)
                  #6: 0x260C1F: deno core::runtime::jsruntime::v8 init (jsruntime.rs:363)
                  #7: 0x26125B: deno core::runtime::jsruntime::JsRuntime::init v8::{{closure}} (jsruntime.rs:546)
                  #8: 0x244A9F: std::sync::once::0nce::({closure}} (once.rs:149)
                  #9: 0x41457F: std::sys common::once::futex::Once::call (futex.rs:124)
                  #10: 0x24497F: std::sync::once::Once::call once (once.rs:149)
                  #11: 0x2610C7: deno core::runtime::jsruntime::JsRuntime::init v8 (jsruntime.rs:545)
PP 1.3/5 {
   Total:
                               3,048 bytes (0.11%, 99.14/Minstr) in 1 blocks (0.03%, 0.03/Minstr), avg size 3,048 bytes, avg lifetime 27,324,837 instrs (88.88% of program duration)
   Max:
                             3,048 bytes in 1 blocks, avg size 3,048 bytes
   At t-gmax: 3,048 bytes (0.48%) in 1 blocks (0.1%), avg size 3,048 bytes
   At t-end: 3,048 bytes (8.99%) in 1 blocks (0.15%), avg size 3,048 bytes
                             28 bytes (0%, 0.91/Minstr), 0.01/byte
                        2,560 bytes (0.07%, 83.27/Minstr), 0.84/byte
    Allocated at {
        #1: 0xC39E5F: _uhash_create(int (*)(UElement), signed char (*)(UElement), signed char (*)(UElement, UElement), int, UErrorCode*) (uhash.cpp:296)
       #2: 0xC10D37: icu_73::locale_set_default_internal(char const*, UErrorCode&) (locid.cpp:200)
#3: 0xC1103B: icu_73::Locale::init(char const*, signed char) (locid.cpp:1845)
        #4: 0x71B483: v8::internal::Isolate::DefaultLocale() (isolate.cc:6036)
        #5: 0x72127B: v8::internal::LocalIsolate::LocalIsolate(v8::internal::Isolate*, v8::internal::ThreadKind) (local-isolate.cc:28)
        #6: 0x717123: v8::internal::Isolate::Init(v8::internal::SnapshotData*, v8::internal::SnapshotData*, v8:
        #7: 0x717B9B: v8::internal::Isolate::InitWithSnapshot(v8::internal::SnapshotData*, v8::internal::SnapshotData*, v8::internal::Snapsh
        #8: 0xA739DF: v8::internal::Snapshot::Initialize(v8::internal::Isolate*) (snapshot.cc:199)
        #9: 0x689EEF: v8::Isolate::Initialize(v8::Isolate*, v8::Isolate::CreateParams const&) (api.cc:9369)
        #10: 0x68A00F: v8::Isolate::New(v8::Isolate::CreateParams const&) (api.cc:9405)
        #11: 0x661073: v8::isolate::Isolate::new (isolate.rs:576)
PP 1.4/5 {
   Total:
                              1,440 bytes (0.05%, 46.84/Minstr) in 5 blocks (0.17%, 0.16/Minstr), avg size 288 bytes, avg lifetime 29,356,364.4 instrs (95.49% of program duration)
                              1,440 bytes in 5 blocks, avg size 288 bytes
   At t-gmax: 1,440 bytes (0.23%) in 5 blocks (0.48%), avg size 288 bytes
   At t-end: 1,440 bytes (4.25%) in 5 blocks (0.76%), avg size 288 bytes
   Reads:
                             40 bytes (0%, 1.3/Minstr), 0.03/byte
    Writes:
                            320 bytes (0.01%, 10.41/Minstr), 0.22/byte
    Accesses: {
        [ 0] 10 " " " " " " " ----- 5 " " " " " " " " -----
         [32] 10 " " " " " " 5 " " " " " " " 10 " " " " " " 5 " " " " " " " " "
            961
          [192]
          [224]
         [256]
        #1: 0x400F283: calloc (rtld-malloc.h:44)
        #2: 0x400F283: allocate_dtv (dl-tls.c:375)
        #3: 0x400FC5F: _dl_allocate_tls (dl-tls.c:634)
        #4: 0x4A1F803: allocate_stack (allocatestack.c:423)
        #5: 0x4A1F803: pthread_create@@GLIBC_2.34 (pthread_create.c:650)
        #6: 0xE932CF: v8::base::Thread::Start() (platform-posix.cc:1198)
        #7: 0x66B53B: v8::platform::DefaultWorkerThreadsTaskRunner::DefaultWorkerThreadsTaskRunner(unsigned int, double (*)(), v8::base::Thread::Priority) (default-worker-threads-task-runner.cc:18)
        #8: 0x66A137: v8::platform::DefaultPlatform::EnsureBackgroundTaskRunnerInitialized() (default-platform.cc:141)
        #9: 0x669E93: v8::platform::NewDefaultPlatform(int, v8::platform::IdleTaskSupport, v8::platform::InProcessStackDumping, std::Cr::unique_ptr<v8::TracingController, std::Cr::default_delete<v8::TracingController, std::default_delete<v8::TracingController, std:
        #10: 0x260C93: new (platform.rs:133)
        #11: 0x260C93: new_default_platform (platform.rs:80)
```

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#12: 0x260C93: deno_core::runtime::ys_init::{{closure}} (jsruntime.rs:361)
    #13: 0x24C49F: core::option:Option<T>::unwrap_or_else (option.rs:979)
    #14: 0x260C03: deno_core::runtime::jsruntime::v8_init (jsruntime.rs:360)
    #15: 0x26125B: deno_core::runtime::jsruntime::JsRuntime::init_v8::{{closure}} (jsruntime.rs:546)
}
}
PP 1.5/5 {
    At t-end: 550 bytes (1.62%)
    Allocated at {
        [24 insignificant]
     }
}
PP significance threshold: at-t-end >= 339.09 bytes (1%)
```

Legend:

- 't-gmax': time of global heap maximum (as measured in bytes)
- 't-end': time of program end
- 'instrs': instructions
- · 'Minstr': mega-instruction, i.e. one million instructions
- 'PP': program point
- 'avg': average
- '-' (in accesses): zero
- '\infty' (in accesses): leaf PP counts max out at 65534; larger counts are treated as infinity
- '" (in accesses): same as previous entry

Processing time: read:5.5ms + parse:1.2ms + build:9.3ms + display:1.9ms = total:17.9ms