Assignment 4

Page No.: YOUVA

what does the static keyword mean in java? Explain the difference between static and nonstatic methods. Static keyword in java -The static keyword in java is used tos memory management and indicates that a member (method or variable) belongs to the class Rather than to any specific instance. This means static members are shared across all instance of the class. Static vs Non-static Methods: - static Methods: Belong to the class and can be sat ald be be called without creating an instance. They cannot lea tapper en la coess non-static members directly appropriate some and - Non-static Method: ore instance methods & can access both static & non static members. What is the Role of the static keyword in the 2) context of memory management? static members are stored in a special memosy area known as the Method Area (part of the heap). This makes them shared across all instances, reducing memosy usage when dealing with multiple objects of the same class.

| | M T W T F S S Page No.: YOUVA |
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| | Date: |
| 3) | can static methods be overloaded and overridden |
| | in Java ? How Static variables shared across |
| | multiple instances of a class? |
| _ | Overloading - static methods can be overloaded (same name, different parameter) Overriding - Static methods cannot be overridden |
| 7 | Overloading - static methods can be overloaded (same name different payameter) |
| | Overriding - Static methods cannot be overridden |
| | because they are resolved at compile |
| | time (so not suntime). |
| | static variables - They are shared across all instance |
| | of a class, meaning any change |
| | made to a static variable by one |
| | instance is visible to all other |
| | explain the concesto tagonor alt niplays la |
| | conversion in Java |
| | |
| 4) | What is the significance of the final keyword in |
| () | Java? of tai per sempatible types (eq. int to saval |
| | without an explicit rast, as it is considered |
| \Rightarrow | The final keyword can be used with variables, |
| | method and classes |
| | final variable value cannot be changed once |
| | rinal method cannot be overridden by subclass. |
| | Final method cannot be overridden by subclass. |
| | Final class cannot be subclassed. |
| | ald the seal that the later is a facility of |
| 5) | what are narrowing 4 to widening conversion in |
| | java ? |
| | Buttalmanum of pullar falloys |
| -> | Narrowing - Explicit conversion from a larger data |
| | Narrowing - Explicit conversion from a larger data type to a smaller one, which may lead |

to data loss (e.g. double to int)

[e.g double x = 9.78; int y = (int)x;

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| 24 | Widening: Automatic conversion from a smaller |
| | data type to a longer one Le.g. int |
| Ĭ | to long). [e.g int a=10; long b=a;] |
| | |
| | thousand a station of the profession of |
| (1) | How does java handles potential loss of precision |
| Dashle | during narrowing conversion? |
| Palla | non to bautona pain parts no mad alter and aller |
| | Java shows a warning & requires an explicit cast to indicate that precision loss might |
| Dean | cast to indicate that precision loss might |
|) | occur (e.g. from double to int). |
| 90 | made to a static variable by a |
| | factorice is visible to all other |
| 8) | Explain the concept of automatic widening |
|) | conversion in Java. |
| - | |
| \Rightarrow | Javo automatically widens smaller data types |
| | to larger compatible types (e.g. int to double) |
| | without an explicit cost, as it is considered |
| | safe and free from data loss. |
| 5 | Session and classes a session ban bodtain - |
| 2) | what are the implications of narrowing & widening conversions on type compability & |
| 9) | what are the implications of narrowing & |
| | widening conversions on type compability & |
| | data loss? harrondura ad tongos aubis tonit |
| | Widoning and a dead and formally |
| 7 | Widening: safe & does not lose data. |
| | Narrowing: May lead to data loss, sequising explicit casting to acknowledge potential precision loss. |
| | explicit cacting to data xoss, sequising |
| | potential execusion lace |
| | |
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