|  |  |  |
| --- | --- | --- |
| **Skill 19.01 Exercise 1** | | |
| Refer to the class below.  public class Student{  private String name;  private int gradeLevel;  private double GPA;  private boolean hasScholarship;  public Student(){    }  public void setName(String n){  name = n;  }  public String getName(){  return name;  }  }  Complete the stack and heap diagram for the following calls, then indicate the output that would be printed. | | |
| Student student1 = new Student();  String someName = “Bob”;  Student1.setName(someName);  Student student2 = new Student();  Student2.setName(“Marvin”);  Student1 = student2;  System.out.println(student1.getName());  System.out.println(student2.getName()); | | |
| **Stack** | **Heap** | **Output** |
|  |  |  |

|  |
| --- |
| **Skill 19.2 Exercise 1** |
| The following method was added to the Student class above,  public int getGradYear(){   int gradYear = 0;  int year = YearMonth.now().getYear();  int month = YearMonth.now().getMonthValue();  if(month>=6){  gradYear = 12 - gradeLevel + year + 1;  }else{  gradYear = 12 - gradeLevel + year;  }  return gradYear; }  Student usernames are based on the students first initial followed by their graduation year. For example, a student name “Bart” is in grade 10. So, his username is b2023. Write the getUsername method below which returns the username of a student. |
|  |

|  |
| --- |
| **Skill 19.3 Exercise 1** |
| Refer to the Student class above. Write the method getHasScholarship, which returns true if a student has a GPA over 3.5 and false otherwise. |
|  |

|  |
| --- |
| **Skill 19.4 Exercise 1** |
| Consider the following class declarations  public class SumNums{  private int num1;  private int num2;  public SumNums(int a, int b){  int sum = a + b;  }  public int getSum(){  return sum;  }  public int reverseNum(int num){  int reversed = 0;  while(num != 0) {  int digit = num % 10;  reversed = reversed \* 10 + digit;  num /= 10;  }  }  public int anotherMethod(int num){  return reversed\*Math.pow(reversed, num);  }  }  The code above has errors. Fix the code so it works as intended. . |
|  |

|  |  |
| --- | --- |
| **Skill 19.5 Exercise 1** | |
| Consider the following partial class declaration  public class SomeClass{  private int myA;  public int myB;  public int myC;  public someClass(){}  public void someMethod(){}  private int getMyA(){  return myA;  }  }  The following declaration appears in another class. For each line of code, indicate whether or not it will compile without error. If it does not compile indicate why.  SomeClass obj = new SomeClass(); | |
| obj.myA = 5; |  |
| int x = 10;  obj.myB = x; |  |
| int x = obj.myA; |  |
| int x = obj.myB; |  |
| double x = obj.myC; |  |
| System.out.println(obj.myA)); |  |
| System.out.println(obj.someMethod()) |  |
| System.out.println(obj.getMyA()); |  |