**Lista 08**

**Nome**: Arthur Rocha Amaral **Matricula**: 625034

**Questão 01:**

public class Questao01 {  
 public static void main(String[] args) {  
 CArvBin arvore = new CArvBin();  
 arvore.put(1, "Primeira" );  
 arvore.put(5, "Segunda" );  
 arvore.put(7, "Terceira" );  
 arvore.put(8, "Quarta" );  
 arvore.put(4, "Quinta" );  
 arvore.put(3, "Sexta" );  
 arvore.put(6, "Setima" );  
 arvore.put(2, "Oitava" );  
  
 arvore.imprimeABP(1);  
 System.*out*.println("----------------");  
 arvore.imprimeABP(2);  
 System.*out*.println("----------------");  
 arvore.imprimeABP(3);  
 }  
}

**Questão 02:**

public class Questao02 {  
 public static void main(String[] args) {  
 CArvBin abp = new CArvBin();  
 RandomQueue rq = new RandomQueue();  
 for (int i = 0; i < 1000; i++) {  
 rq.enqueue(i + 1);  
 }  
  
 while (!rq.isEmpty()) {  
 int j = ((int) rq.dequeue());  
 abp.put(j, j);  
 }  
  
  
 long mili = System.*currentTimeMillis*();  
  
 for (int i = 0; i < 1000; i++) {  
 for (int j = 0; j < 100; j++) {  
 abp.get(i + 1);  
 }  
 }  
  
  
 mili = System.*currentTimeMillis*() - mili;  
 System.*out*.println("Tempo da pesquisa: " + mili + " ms");  
 }  
}

**Questão 03:**

public class Questao03 {  
public class Questao03 {  
 public static void main(String[] args) {  
 int[] abp = new int[1000];;  
 RandomQueue rq = new RandomQueue();  
 for (int i = 0; i < 1000; i++) {  
 rq.enqueue(i + 1);  
 }  
  
 for (int i = 0; i < 1000; i++) {  
 int j = ((int) rq.dequeue());  
 abp[i] = j;  
 }  
  
 long mili = System.*currentTimeMillis*();  
  
 for (int i = 0; i < 1000; i++) {  
 for (int j = 0; j < 100; j++) {  
 *getIVet*(abp, i+1);  
 }  
 }  
  
  
 mili = System.*currentTimeMillis*() - mili;  
 System.*out*.println("Tempo da pesquisa: " + mili + " ms");  
 }  
  
 static int getIVet(int[] vet, int num) {  
 boolean achou = false;  
 int i = 0;  
 while (!achou && i < vet.length) {  
 if (vet[i] == num)  
 achou = true;  
 else  
 i++;  
 }  
 if (achou) return vet[i];  
 else return 0;  
 }  
}

**Questão 04:**

public class Questao04 {  
 public static void main(String[] args) {  
 CArvBin abp = new CArvBin();  
 for (int i = 0; i < 1000; i++) {  
 abp.put(i + 1, "");  
 }  
  
 long mili = System.*currentTimeMillis*();  
  
 for (int i = 0; i < 1000; i++) {  
 for (int j = 0; j < 100; j++) {  
 abp.get(i + 1);  
 }  
 }  
  
  
 mili = System.*currentTimeMillis*() - mili;  
 System.*out*.println("Tempo da pesquisa: " + mili + " ms");  
 }  
}