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1 package hw2;
2 /*
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5    Date: 10/01/22
6    Assignment: Scholarship - Control Flow
7    Problem Statement: Determine if a student is
8    eligible for a scholarship or for dean consideration
9    based on their age, where they live, their work
10   history, taxes, volunteering history, and income
11 */
12
13 import java.util.Scanner;
14
15 public class Scholarship {
16     //variables used to determine the students
17     eligibility
18     static int age = 0;
19     static boolean resident = false;
20     static boolean partTimeWorker = false;
21     static boolean paidStateTax = false;
22     static boolean volunteered = false;
23     static int houseHoldIncome = 0;
24
25     /**
26      * This method will take user input to then be
27      * used to determine their eligibility for the
28      * scholarship
29      */
30     public static void main(String[] args) {
31         //scanner to get user info
32         Scanner sc = new Scanner(System.in);
33
34         //used to get the users age
35         System.out.println("Enter your age");
36         age = sc.nextInt();
37     }
38 }
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```
33      //used to verify the user has lived in CA for
    2 years
34      System.out.println("Have you lived in
    california for last 2 years: Y/N");
35      resident = charToBool(sc.next().charAt(0));
36
37      //used to verify the users work history
38      System.out.println("have you worked part time
    or full time for at least 6 months");
39      partTimeWorker = charToBool(sc.next().charAt(0
    ));
40
41      //used to verify the user's parents tax info
42      System.out.println("have your parents paid CA
    state tax and lived in CA for 1 year");
43      paidStateTax = charToBool(sc.next().charAt(0
    ));
44
45      //used to verify the users volunteering
    history
46      System.out.println("have you volunteered for a
    public cause in CA and have proof");
47      volunteered = charToBool(sc.next().charAt(0));
48
49      //used to very the users income
50      System.out.println("Enter your HouseHold
    Income");
51      houseHoldIncome = sc.nextInt();
52
53      //this will pass the users information to
    checkEligibility() method to determine if the user is
    eligible for scholarship or not
54      int eligible = checkEligibility(age, resident
    , partTimeWorker, paidStateTax, volunteered,
    houseHoldIncome);
55
56      //if the user doesn't meet CA residency but
    has income less than $5k they will be told they are up
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56  for dean consideration
57      if (eligible == -1) {
58          System.out.println("Dean for consideration
60      //will print 0 if they aren't eligible and 1
61      for eligible
62      else {
63          System.out.println(eligible);
64      }
65
66      /**
67       * this method will be used to determine the users
68       * eligibility for the scholarship based on their input
69       * @param age - user input
70       * @param isResident - user input
71       * @param isPartTimeWorker- user input
72       * @param hasPaidStateTax- user input
73       * @param hasVolunteered- user input
74       * @param houseHoldIncome- user input
75       * @return - 0 if they aren't eligible, 1 if they
76       * are and -1 for dean for consideration
77       */
78      public static int checkEligibility(int age,
79      boolean isResident, boolean isPartTimeWorker, boolean
80      hasPaidStateTax,
81      boolean
82      hasVolunteered, int houseHoldIncome)
83      {
84          //if user age is not within the accepted range
85          then will return 0 (false)
86          if (age < 18 || age > 24)
87          {
88              return 0;
89          }
90          //if user has met at least one of the CA
91          residency conditions they will be eligible

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85         if (isResident || isPartTimeWorker ||
hasPaidStateTax || hasVolunteered) {
86             return 1;
87         }
88
89         //if the users income is below the threshold
then they will be sent for dean consideration
90         if (houseHoldIncome < 5000) {
91             return -1;
92         }
93         //if the user doesn't satisfy CA residency
conditions or income less than threshold they will
not be eligible
94         return 0;
95     }
96
97     /**
98      * this method will alter the users text input to
be saved as a boolean value
99      * @param c - user input (y or n)
100     * @return - boolean value based on input or an
exception if the user input is incorrect
101     */
102     public static boolean charToBool(char c) {
103         return switch (c) {
104             case 'y' -> true;
105             case 'n' -> false;
106             default -> throw new
IllegalArgumentException("Must be either 'y' or 'n'."
);
107         };
108     }
109 }
110

```