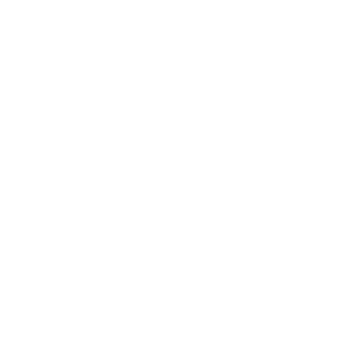
In Class Activity #4

**Question 1:** Select and match the proper type for the following values (use arrows):

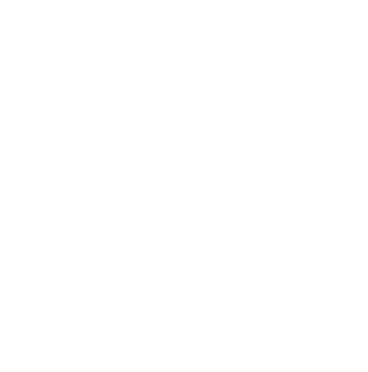


8

8.0

‘8’

“8”



double String int

char

Solution: 8 🡺 int

8.0 🡺 double

'8' 🡺 char

"8" 🡺 string

**Question 2:** Which of the following are valid identifiers? Explain

|  |  |  |
| --- | --- | --- |
| Variable name | Valid or Invalid? | Explain |
| ***w*** | Valid | Any alphabet is a valid identifier |
| ***myVariable*** | Valid | Any word without spaces is an identifier |
| ***variable\_1*** | Valid | Underscore and number can be used with a word to make a valid identifier as long as number is not at beginning. |
| ***%variable*** | Invalid | identifier can't start with % sign. |
| ***1\_Variable*** | Invalid | identifier can't begin with a letter. |
| ***Void*** | Valid | void is a valid identifier. |

**Question 3:** Given the following declarations, what result is stored in each of the listed assignment statements? Assume each statement is independent of each other.

**int** iResult, num\_1 = 25, num\_2 = 40, num\_3 = 17, num\_4 = 5;

**double** fResult, val\_1 = 17.0, val\_2 = 12.78;

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | | **Result stored** | | **Type of value** | |
| iResult = num\_1 / num\_4; | | 5 | | int | |
| num\_4 += 7; | | 12 | | int | |
| num\_1 -­‐= 5; | | 20 | | int | |
| fResult = num\_1 / num\_4; | | 5.0 | | double | |
| iResult = num\_3 / num\_4; | | 3 | | int | |
| fResult = num\_3 / num\_4; | | 3.0 | | double | |
| num\_4 \*= num\_1 + num\_2; | | 325 | | int | |
| fResult = val\_1 / num\_4; | | 3.4 | | double | |
| fResult = val\_1 / val\_2; | | 1.33 | | double | |
| iResult = num\_1 / num\_2; | | 0 | | int | |
| fResult = (double) (num\_1 / num\_2); | | 0.62 | | double | |
| iResult = (int) (val\_1 / num\_4); | | 3 | | int | |
| fResult = (int) (val\_1 / num\_4); | | 30 | | double | |
| fResult = (int) ((double)num\_1 / num\_2); | | 0.0 | | double | |
| iResult= num\_3 % num\_4; | | 2 | | int | |
| iResult= num\_2 % num\_3; | | 6 | | int | |
| iResult= num\_3 % num\_2; | | 17 | | int | |
| iResult= num\_2 % num\_4; | | 0 | | int | |
| val\_1 /= 2; | | 8.5 | | double | |

**Question 4:**  Assume the following fragment of code and algorithm:

short age;

double rebate = 0;

boolean isAStudent;

int workExperience;

…

if (age < 10)

rebate = 20;

if (age > 70)

rebate = 20;

if (age < 20)

if (isAStudent)

if (workExperience > 4)

rebate = 15;

Rewrite the instructions outlined in yellow by reducing the number of **if** statements to a

minimum. Your new code should behave exactly as the above code in every possible situation.

**Solution**: if (age < 10 || age > 70)

rebate = 20;

If (age < 20 && isAStudent && workExperience > 4)

rebate = 15;

**Question 5:** What is the output of the following piece of code (solve without using IDE at first, then check it afterwards to confirm your solution):

int i = 0, j = 2;

**Output**: **2**

do {

i = ++i;

j--;

} while(j>0);

System.*out.println(i);*

**Submit on Omnivox before end of class to confirm your attendance. If you are not complete by end of class, upload what you have completed up until that point. Submissions should be completed and submitted individually, do not upload submissions for multiple students, only your own and do not MIO your activity.**