

IT Passport Examination

Examples of questions in the pseudo programming language

Q1. Which of the following is the the correct combination of the answers to be inserted in and in the program?

The function `calcMean` receives the array `dataArray` (the number of elements ≥ 1) as an argument, and returns the average of values in the array elements as the return value.

Here, the array index starts at 1.

[Program]

```
○ real: calcMean(real []: dataArray) /* Declaration of function */
  real: sum, mean
  integer: i

  sum ← 0
  for (increase i from 1 to the number of elements in dataArray by 1)
    sum ← 
  endfor
  mean ← sum ÷  /* Division is done in data type real */
  return mean
```

	A	B
a)	<code>sum + dataArray[i]</code>	the number of elements in <code>dataArray</code>
b)	<code>sum + dataArray[i]</code>	(the number of elements in <code>dataArray</code> + 1)
c)	<code>sum × dataArray[i]</code>	the number of elements in <code>dataArray</code>
d)	<code>sum × dataArray[i]</code>	(the number of elements in <code>dataArray</code> + 1)

Q2. Which of the following is the correct combination of the answers to be inserted in and in the program?

The procedure printDots outputs “o” and “•” alternatively. The number of dots to be printed is specified by the argument num. If the value of num is 0 or negative, dots are not printed.

[Program]

```

○ printDots(integer: num) /* Declaration of procedure */
  integer: cnt ← 0 /* Initialize the number of printed dots */
  string: dotColor ← "DC1" /* Print "o" first */

```

```

if (dotColor = "DC1")
  output "o"
  dotColor ← "DC2"
else
  output "•"
  dotColor ← "DC1"
endif
cnt ← cnt + 1

```

	A	B
a)	do	While (cnt ≤ num)
b)	do	While (cnt < num)
c)	While (cnt ≤ num)	endwhile
d)	While (cnt < num)	endwhile

Answers and intention of the sample questions in the psuedo programming language

# Question	Answer	Intention of the question
1	a	By using a process to obtain the average of given data, ask the ability to understand an array and to express the algorithm for calculating the average, in the form of program (function),
2	d	Ask the ability to understand the specifications shown in the question sentences, to image the output, and to express the algorithm comprised of the iteration and selection processes to meet them, in the form of program (procedure).