



Celebrating 100 Years of Career Readiness

# 2018-2019

## Technical Skills Assessment Programming and Software Development

### Results by Standard

Legend (%)		
0-50%	51-75%	76-100%

Assessment: Idaho Programming and Software Development Number tested: 69	% Correct 16-17	% Correct 17-18	% Correct 18-19
<b>1) CONTENT STANDARD 1.0: Demonstrate critical thinking and problem-solving skills as they apply to programming.</b>	73.50%	66.89%	67.81%
1) 1.1 Apply basic programming principles.	76.77%	67.84%	68.41%
4) 1.4 Write a program that produces output.	54.84%	48.99%	47.83%
5) 1.5 Select identifiers to use within programs.	87.10%	83.78%	89.86%
7) 1.7 Write and run a program.	84.68%	79.39%	81.52%
<b>2) CONTENT STANDARD 2.0: Demonstrate ability to use variables, data types, and string manipulation to solve computer problems programmatically.</b>	75.81%	75.00%	71.96%
1) 2.1 Demonstrate the process of declaring variables.	67.20%	60.59%	59.18%
2) 2.2 Display variable values.	61.29%	64.19%	57.97%
3) 2.3 Apply integral data types.	75.81%	74.32%	78.26%
5) 2.5 Apply arithmetic operators.	89.52%	94.59%	89.13%
6) 2.6 Apply boolean data type.	92.47%	88.29%	84.54%
9) 2.9 Apply string data type.	67.74%	72.07%	67.15%
<b>3) CONTENT STANDARD 3.0: Demonstrate effective use of selection structures to add logic to programs.</b>	62.03%	63.83%	56.86%
1) 3.1 Demonstrate logic-planning tools and decision-making.	51.61%	72.97%	53.62%
2) 3.2 Make decision using the if statement.	75.27%	70.72%	65.70%
3) 3.3 Make decisions using the if-else statement.	54.84%	55.41%	47.83%
4) 3.4 Apply compound expressions in if statements.	77.42%	77.03%	76.81%
5) 3.5 Make decisions using the switch statement.	54.84%	63.51%	43.48%
6) 3.6 Apply the conditional operator.	54.84%	59.46%	55.80%
7) 3.7 Apply the NOT operator.	67.74%	67.57%	59.42%
9) 3.8 Describe how to avoid common errors when making decisions, and apply problem-solving skills in context.	41.94%	39.19%	42.03%

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<b>4) CONTENT STANDARD 4.0: Demonstrate ability to test, debug and validate programming applications.</b>	68.33%	69.41%	68.38%
1) 4.1 Locate a logic error by stepping through the code.	67.74%	75.23%	74.88%
2) 4.2 Locate logic errors using breakpoints.	74.19%	72.07%	72.46%
3) 4.3 Fix syntax and logic errors.	65.16%	64.32%	62.03%
<b>5) CONTENT STANDARD 5.0: Differentiate between the various types of repetition structures and use</b>	62.03%	59.46%	58.86%
1) 5.1 Apply the loop structure.	77.42%	66.67%	72.95%
2) 5.2 Create loops using the while statement.	58.71%	57.30%	54.78%
3) 5.3 Create loops using the for statement.	55.65%	58.45%	55.07%
5) 5.5 Apply nested loops.	58.06%	52.70%	52.17%
<b>6) CONTENT Use methods to increase functionality and to modularize programs</b>	75.81%	80.18%	76.33%
5) 6.5 Write a method that returns a value.	75.48%	81.35%	79.42%
6) 6.6 Pass an array to a method.	77.42%	74.32%	60.87%
<b>7) CONTENT STANDARD 7.0: Demonstrate understanding of arrays and structure and apply concepts in program development.</b>	60.48%	65.03%	61.59%
1) 7.1 Declare an array and assign values to array elements.	64.52%	70.95%	64.49%
2) 7.2 Access array elements.	64.52%	66.49%	66.67%
3) 7.3 Search an array using a loop.	32.26%	45.95%	30.43%
<b>8) CONTENT STANDARD 8.0: Demonstrate understanding of object-oriented programming concepts.</b>	68.39%	67.43%	61.59%
1) 8.1 Describe and apply class concepts.	65.32%	62.16%	56.52%
2) 8.2 Create classes from which objects can be instantiated.	70.16%	70.61%	65.58%
3) 8.3 Create objects.	70.97%	71.62%	63.77%
<b>11) CONTENT STANDARD 11.0: Apply concepts and principles of systems planning and development.</b>	53.23%	52.03%	54.35%
3) 11.3 Explain reuse and its role in software development.	53.23%	52.03%	54.35%
<b>13) CONTENT STANDARD 13.0: Demonstrate knowledge of application design principles.</b>	53.23%	50.34%	50.36%
3) 13.3 Concisely define each of the following key database design terms: relation, primary key, functional dependency, foreign key, referential integrity, field, data type, null value, denormalization, file organization, index, and secondary key.	53.23%	50.34%	50.36%