Unit 2 – ICS2O0 – Javascript Ifs & Boolean Expressions

Sample Test – October 24, 2018

Name: Solutions

Total	Knowledge	Communication	Thinking	Application
(100)	(25)	(30)	(25)	(20)

Knowledge

1. Evaluate the following. /7

		AND		OR	
a) What is the symbol for and?	&&	f) Evaluate T && T?	T	j) Evaluate T || T?	T
b) What is the symbol for or?	||	g) Evaluate T && F?	F	k) Evaluate T || F?	T
c) What is the symbol for not?	!	h) Evaluate F && T?	F	l) Evaluate F || T?	T
d) Evaluate !T	F	i) Evaluate F && F?	F	m) Evaluate F || F?	F
e) Evaluate !F	T				

2. If x is 12, evaluate the following.

(T) F a) x > 3
T (F) b) x > 12
(T) F c) x >= 12
T (F) d) x < 12
(T) F e) x == 12
T (F) f) x != 12
T (F) g) x >= 4 && x <= 8
(T) F h) x < 3 || x > 9

3. If x = 8 , evaluate the following. /12

(a) x != 1 && x ==8
= 8 !=1 && 8 !=8
= T && F
= F

(b) !(x >= 3 && x < 9)
= !(8 >= 3 && 8 < 9)
= !(T && T)
= !(T)
= F

4. What is printed on the screen for each of the following values of n? /6

```
onClick("enter", "click", function(event) {
var n = promptNum ("Value? ");
if (n == 2)
   setText("result", "Orange");
else if (n >= 4)
   setText("result", "Ghost");
else if (n < 1)
   setText("result", "Witch");
else
   setText("result", "Cat");
});
```

Value of n?	Output
0	Witch
1	Cat
2	Orange
3	Cat
4	Ghost
5	Ghost

Communication

5. Outline 3 ways your computer can get a virus or worm. /3

(a) USB

(b) Wifi

(c) Attachment (e-mail)

6. Fill in the words that match the descriptions given. /8

Worm	a) Malware that can spread itself.
DDos	b) The type of attack done to Estonia's banks and internet in 2007.
Trojan	c) Malware that allows a herder to make your computer into a bot.
Virus Scanner or Firewall	d) Software that can catch 10% of viruses.
Air Gap	e) Computer set up that can stop 100% of viruses.
Header	f) The beginning of a packet that contains destination and return addresses.
IP Address	g) In the form 129.23.45.2
URL	h) In the form www.gorskicompsci.ca

7. Which size of network is described? /6

PAN	a) A pacemaker gets wireless updates while the patient is in the doctor's office.
LAN	b) IEEE 802.3
PAN	c) A student uses a wireless mouse on their computer.
WAN	d) The Bell cell phone network that allows calls across Canada.
LAN	e) The ethernet.
WLAN	f) Wireless network in a Starbucks. Free to all customers.

8. Why are if statements useful? (Use an EQAO quotation format) /4

"If statements allow the code to branch to different outcomes," said John Simmons, computer studies teacher at Brampton Centennial Secondary School. "Thus, our code can make decisions about input."

No quotations in paragraph 1

9. Write the first paragraph of an EQAO newspaper article about an Alexa hack in someone's house. /9

Marks for who, when, what, why, where, how (6). Also for format (2). Also for using terms correctly (1).

On Wednesday, March 22nd, 2018, Bill Gates and his family of San Alto, California had their Alexa home assistant hacked by theives. The theives used a password cracker to gain access to Alexa. They then opened the locks on the Gates' family home and made away with $1M in computer equipment.

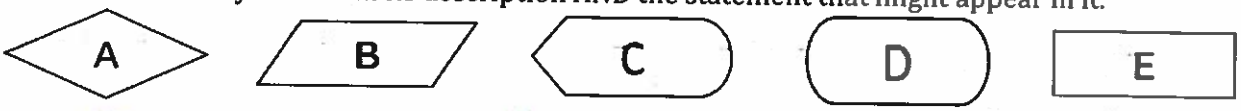
No quotations

Not required; just planning

Who - Gates family
What - hacked Alexa
Why - to unlock door & steal $1M
How - password cracker
Where - San Alto, California
Why - make $; get into house
Terms - hack - password cracker

Thinking

10. Match the flowchart symbol with its description AND the statement that might appear in it. /5



C	Output	A	num == 5
A	Decision	E	var name = "Gorski";
E	Process	B	var amt = prompt ("Take away how many? ");
B	Input	C	setText("result", "Hello");
D	Terminal	D	Start

11. There is an error in each line of code. Circle and **correct** each one. /6

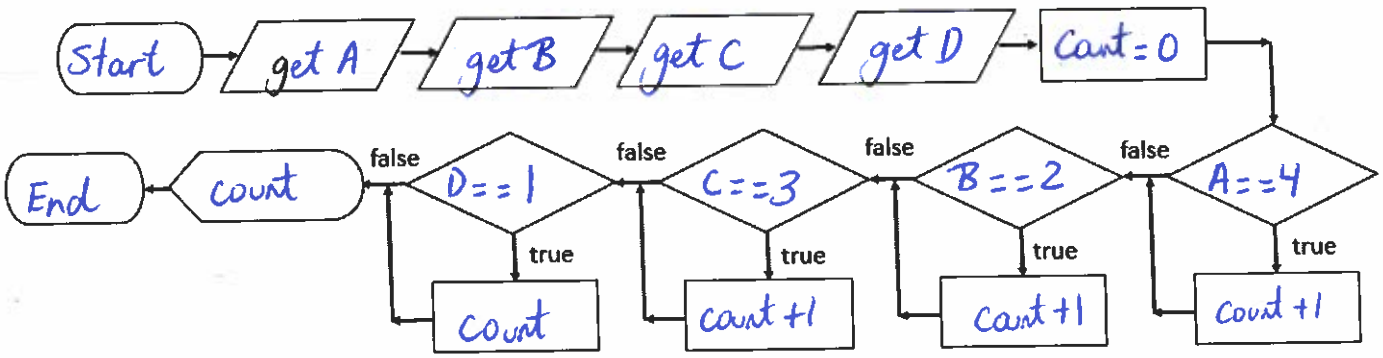
```
onEventButtonClick("click", "click", function(event) {
  var age = prompt("Age? ");
  if (age >= 18)
    setImage("result", "Can vote");
  else if
    setText("Cannot vote");
});
```

Num

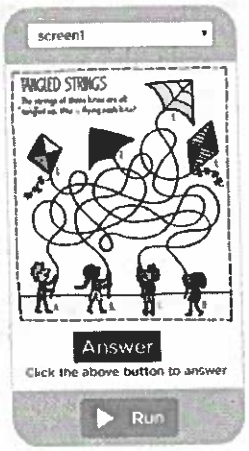
Text

result

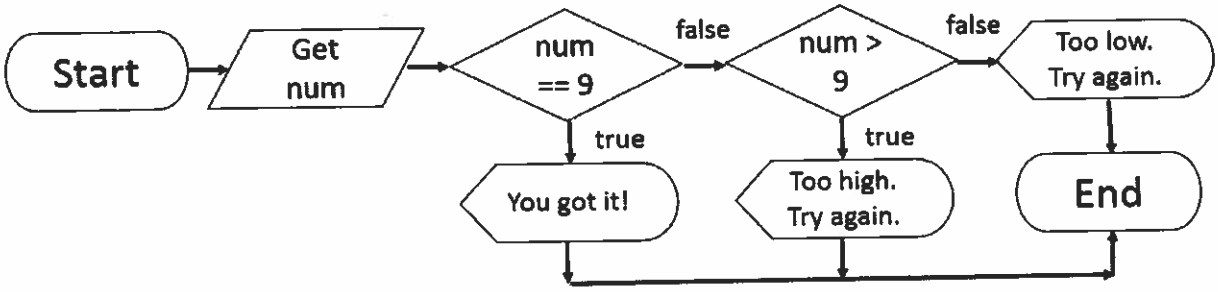
12. Use the code to fill in this flowchart. /6



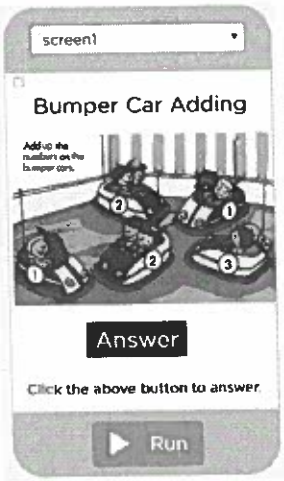

```
onEvent("answer", "click", function(event) {
  var A = promptNum("Child A is flying which kite? ");
  var B = promptNum("Child B is flying which kite? ");
  var C = promptNum("Child C is flying which kite? ");
  var D = promptNum("Child D is flying which kite? ");
  var count = 0;
  if (A==4)
    count = count + 1;
  if (B==2)
    count = count + 1;
  if (C==3)
    count = count + 1;
  if (D==1)
    count = count + 1;
  setText("result", "You got "+count+" right!");
});
```



13. Fill in this code based on the flow chart shown below. /4




```
onEvent("answer", "click", function(event) {
  var num = promptNum("What is the total? ");
  if (num == 9) {
    setText("result", "You got it!");
  } else if (num > 9) {
    setText("result", "Too high. Try again");
  } else {
    setText("result", "Too low. Try again");
  }
});
```



14. Solve these Ken-Ken puzzles. /4

7+ 3	1 1	2– 2	4
4	3+ 2	1	2– 3
2 2	7+ 3	4	1
3– 1	4	5+ 3	2

2– 2	6+ 3	1	4 4
4	2	7+ 3	3+ 1
8+ 3	1	4	2
1 1	4	5+ 2	3

Application

15. Make this code more efficient. (I coded it in 4 lines, with only one short Boolean expression) /5

```
onClick("enter", "click", function(event) {
   var day = prompt ("Enter the day
   (m/t/w/r/f/s/n): ");
   if (day == 'm' && day != 's' && day != 'n')
       setText("result", "Go to school");
   if (day == 't' && day != 's' && day != 'n')
       setText("result", "Go to school");
   if (day == 'w' && day != 's' && day != 'n')
       setText("result", "Go to school");
   if (day == 'r' && day != 's' && day != 'n')
       setText("result", "Go to school");
   if (day == 'f' && day != 's' && day != 'n')
       setText("result", "Go to school");
   if (day == 's')
       setText("result", "Stay home");
   if (day == 'n')
       setText("result", "Stay home");
});
```

Yours:

```
onClick("enter", "click", function(event) {
  var day = prompt ("Enter the day (m/t/w/r/f/s/n): ");
```

if (day == 's' || day == 'n')
    setText ("result", "stay home");
else
    setText ("result", "Go to school");

```
});
```

16. This is an example of the input and output of the following program: /5

```
Enter a time in seconds: 7
It is on the ground
```

Fill in the blanks so that the program will produce that input and output.

```
onEvent ("button", "click", function(event) {
  var time = promptNum("Enter a time in seconds: ");
  var height = 100 - 4.9 * time * time;
  if (height > 0)
    setText("Answer", "The height is " + height);
  else if (height == 0)
    setText("Answer", "It has just landed");
  else
    setText("Answer", "It is on the grand");
});
```

17. Get a number grade from the user. Then, use this chart to print out the A, B, C, D or F that corresponds with the grade. /10

Grade	80+	70-79	60-69	50-59	Under 49
Letter	A	B	C	D	F

```
onEvent ("button", "click", function(event){
  var grade = promptNum("Enter a grade:");
  if (grade >= 80)
    setText("Answer", "A");
  else if (grade >= 70)
    setText("Answer", "B");
  elseif (grade >= 60)
    setText("Answer", "C");

  else if (grade >= 50)
    setText("Answer", "D");

  else
    setText("Answer", "F");

});
```