Microsoft

Exam 98-380

Introduction to Programming Using Block-Based Languages (Touch Develop)

Verson: Demo

[Total Questions: 10]

Question No : 1 HOTSPOT

You are building a treasure hunt game.

When the player opens a treasure box, a random prize might be awarded with the following probabilities:

- ✎ Gold Prize 2%
- ✎ Silver Prize 5%
- ✎ Bronze Prize 20%

You are designing an algorithm to decide the prize using the random function. The random(limit) function returns a random integer between 1 and limit, including limit. For example, if the limit is 20, the function returns a value between 1 and 20.

Answer Area

```
SET value TO random(100)

IF value < [0.02 ▼] THEN

    RETURN "Gold"

ELSE IF value < [5      ▼] THEN

    RETURN "Silver"

ELSE IF value < [0.2  ▼] THEN

    RETURN "Bronze"

ELSE

    RETURN "Empty"

END IF
```

Answer:

Answer Area

```
SET value TO random(100)

IF value < [0.02 ▼] THEN

    RETURN "Gold"

ELSE IF value < [5 ▼] THEN

    RETURN "Silver"

ELSE IF value < [0.2 ▼] THEN

    RETURN "Bronze"

ELSE

    RETURN "Empty"

END IF
```

Question No : 2 DRAG DROP

You are writing the algorithmic steps to draw a rectangle of a random length and width, calculate the area of the rectangle, and output the calculated area to the screen beneath the rectangle. The width of the rectangle must be greater than its length.

Which five pseudocode segments should you use to develop the solution? To answer, move the appropriate pseudocode segments from the list of pseudocode segments to the answer area and arrange them in the correct order.

NOTE: More than one order of answer choices is correct. You will receive credit for any of the correct orders you select.

Pseudocode Segments

FOR 0 ≤ i < 4
  Forward length
  Turn Right

FOR 0 ≤ i < 2
  Forward width
  Turn right
  Forward length
  Turn right

Set width equal to length + random number 10 to 100
Output = length * width
Area = length * width
Set length equal to random number 2 to 200
Output area

Answer Area (move 5 pseudocode segments)

Answer:

Pseudocode Segments

FOR 0 ≤ i < 4
  Forward length
  Turn Right

FOR 0 ≤ i < 2
  Forward width
  Turn right
  Forward length
  Turn right

Set width equal to length + random number 10 to 100
Output = length * width
Area = length * width
Set length equal to random number 2 to 200
Output area

Answer Area (move 5 pseudocode segments)

Set length equal to random number 2 to 200
Set width equal to length + random number 10 to 100

FOR 0 ≤ i < 2
  Forward width
  Turn right
  Forward length
  Turn right

Output = length * width
Output area

Question No : 3

Which two problems can a computer solve efficiently by using iteration as part of the algorithm? (Choose two.)

A. Counting the number of times a specific word appears in a book
B. Finding the first 1000 digits of pi
C. Evaluating two player scores to determine a winner
D. Extracting the meaning of a paragraph of text

Answer: A,C

Question No : 4 HOTSPOT

You are creating an app for Alpine Ski House.

Players will move a skier between pairs of flags as the skier moves down the slope. The number of flag pairs that a user must successfully pass is three times the player's level. Flag1 is displayed on the left and Flag2 is displayed on the right, as shown in the exhibit. (Click the Exhibit tab.)

When the skier outside the flags, the skier will crash into an obstacle and the following actions will occur:

- ✎ The player will lose one life.
- ✎ An animation will play
- ✎ A sound will play.

The player starts the game with 10 lives. If the player's life becomes 0 before the skier reaches the bottom, the skier crashes and the game ends. If the skier reaches the bottom the player gains one level.

You need to design the algorithm.

Which pseudocode should you use? To answer, select the appropriate pseudocode segments in the answer area.

NOTE: Each correct selection is worth one point.

```
SET PairsPassed TO Life ▼

WHILE      Life > 0 AND PairsPassed < Level * 3      ▼

              IF Skier x-position < Flag1 x-position

                  OR                            ▼   Skier x-position > Flag2 x-position THEN

                      SET Life TO Life - 1

                      Play animation

                      Play sound

                  ELSE

                      SET PairsPassed TO   Level * 3        ▼

                  END IF

END WHILE

IF   Life < 0                  ▼   THEN

        SET Level TO Level + 1

ELSE

        Game Ends

END IF
```

Answer:

```
SET PairsPassed TO Life ▼
WHILE    Life > 0 AND PairsPassed < Level * 3    ▼

              IF Skier x-position < Flag1 x-position

                 OR                      ▼   Skier x-position > Flag2 x-position THEN

                 SET Life TO Life - 1

                 Play animation

                 Play sound

              ELSE

                 SET PairsPassed TO  Level * 3      ▼

              END IF

END WHILE

IF  Life < 0                  ▼   THEN

        SET Level TO Level + 1

ELSE

        Game Ends

END IF
```

Question No : 5 HOTSPOT

You analyze the following pseudocode for playing a dice game:

```
SET Points TO 0
SET First Roll TO True
DO UNTIL User Quits
    SET Dice1 TO Random Number from 1 to 6
    SET Dice2 TO Random Number from 1 to 6
    Set Sum TO Dice1 + Dice2
    IF First Roll = True THEN
        IF Sum = 2, 3, or 12 THEN
            Player Loses
            SET First Roll TO True
        ELSE IF Sum = 7 or 11 THEN
            Player Wins
            Set First Roll TO True
        ELSE
            SET Point TO Sum
            SET First Roll TO False
        End If
    ELSE IF Sum = 7 THEN
        Player Loses
    ELSE IF Sum = Point THEN
        Player Win
    END IF
LOOP
```

A player rolls the dice three times with the following results:

Roll1: 3 and 5

Roll2: 2 and 6

Roll3: 4 and 3

You need to determine what happens with each roll of the dice.

What are the outcomes for each roll? To answer, select the appropriate options in the answer area.

NOTE: Each correct selection is worth one point.

Answer Area

Roll 1

Player wins
Player loses
Player does not win or lose

Roll 2

Player wins
Player loses
Player does not win or lose

Roll 3

Player wins
Player loses
Player does not win or lose

Answer:

Answer Area

Roll 1

Player wins
Player loses
Player does not win or lose

Roll 2

Player wins
Player loses
Player does not win or lose

Roll 3

Player wins
Player loses
Player does not win or lose

Question No : 6 DRAG DROP

You are designing an algorithm for a survey company. The call center wants you to call participants to gather their views on an upcoming event. You receive a call list that contains all the participants to be called. If a participant answers the phone, you must not call that participant again. If a participant does not answer the phone, you must call that participant again until the participant answers.

Which four actions should you perform in sequence to make the calls? To answer, move the appropriate actions from the list of actions to the answer area and arrange them in the correct order.

Actions

Repeat from the first step until the unanswered list is empty.

Repeat the second step until the call list is empty.

Call a participant from the answered list.

Place the participant from the unanswered list into the call list.

If the participant answers, place the participant in the answered list. Otherwise place the participant in the unanswered list. Remove the participant from the call list.

Call a participant from the call list.

Repeat from the first step until the call list is empty.

Answer Area (move 4 actions)

Answer:

Actions

Repeat from the first step until the unanswered list is empty.

Repeat the second step until the call list is empty.

Call a participant from the answered list.

Place the participant from the unanswered list into the call list.

If the participant answers, place the participant in the answered list. Otherwise place the participant in the unanswered list. Remove the participant from the call list.

Call a participant from the call list.

Repeat from the first step until the call list is empty.

Answer Area (move 4 actions)

Call a participant from the call list.

If the participant answers, place the participant in the answered list. Otherwise place the participant in the unanswered list. Remove the participant from the call list.

Place the participant from the unanswered list into the call list.

Repeat from the first step until the call list is empty.
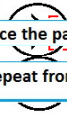
Question No : 7

You are creating a calculator app. The Power function must calculate the result of raising a number by a positive exponent value.

You create the following pseudocode:

Function Power(number, exponent)

DECLARE result

End Function

You need to complete the pseudocode for the function.

Which pseudocode should you use?

A. WHILE exponent > 1 SET result TO result * number SET exponent TO exponent – 1LOOPReturn result

B. IF exponent > 1 SET result TO result * number SET exponent TO exponent – 1END IFReturn result

C. IF exponent > 1 SET result TO result * number SET exponent TO exponent + 1END IFReturn result

D. WHILE exponent > 1 SET result TO result * number SET exponent TO exponent + 1LOOPReturn result

Answer: C

Question No : 8 HOTSPOT

You are building a game using Touch Develop.

You have the following sprite sheet.

The width of the sprite sheet is 300px, and the height of the sprite sheet is 75px. The shapes in the sprite sheet are evenly distributed.

You need to complete the code to display the purple five-pointed star.

What code should you use? To answer, select the appropriate options in the answer area.

Answer Area

```
function main ()

    var board := △ game → start

    var sheet := board → create sprite sheet(✿ shapes sheet)

    sheet → set frame grid ([   ▼], [   ▼], [   ▼], [   ▼], 0, 0, 0)

    var star := sheet → create sprite("2")

end function
```

Answer Area

```
function main ()

    var board := △ game → start

    var sheet := board → create sprite sheet(✿ shapes sheet)

    sheet → set frame grid ([   ▼], [   ▼], [   ▼], [   ▼], 0, 0, 0)

    var star := sheet → create

end function
```

[▼]	[▼]	[▼]	[▼]
1	1	1	1
4	4	4	4
5	5	5	5
75	75	75	75

Answer:

Answer Area

```
function main ()

    var board := △ game → start

    var sheet := board → create sprite sheet(✿ shapes sheet)

    sheet → set frame grid ([   ▼], [   ▼], [   ▼], [   ▼], 0, 0, 0)

    var star := sheet → create

end function
```

[▼]	[▼]	[▼]	[▼]
1	1	1	1
4	4	4	4
5	5	5	5
75	75	75	75

Question No : 9 CORRECT TEXT

You are creating a physics simulation by using Touch Develop.

You need to move a spaceship upward against gravity at a net acceleration of 100 pixels per second squared.

How should you complete the code? To answer, select the appropriate code segments in the answer area.

NOTE: Each correct selection is worth one point.

Answer Area

```
script    physics

function main ()
    var board := △ game → start
    board → set gravity(0, 200)
    var sprite := △ game → create sprite(✿ space-shuttle9)
    sprite → [_____ ▾] [_____ ▾]
end function
```

Answer Area

script   physics

function main ()

    var board := △ game → start

    board → set gravity(0, 200)

    var sprite := △ game → create sprite(✿ space-shuttle9)

    sprite → [▼]   [▼]

end functi

set speed x	-300
set speed y	-200
set acceleration x	-100
set acceleration y	0
	100
	200
	300

Answer: <map><m x1="134" x2="310" y1="424" y2="448" ss="0" a="0" /><m x1="361" x2="440" y1="348" y2="374" ss="0" a="0" /></map>

Explanation:

Answer Area

script   physics

function main ()

    var board := △ game → start

    board → set gravity(0, 200)

    var sprite := △ game → create sprite(✿ space-shuttle9)

    sprite →

end functio

set speed x	-300
set speed y	-200
set acceleration x	-100
set acceleration y	0
	100
	200
	300

References: https://www.touchdevelop.com/docs/sprite

Question No : 10

Humberto wants to create a Touch Develop game that he can play with his friends
competing for the highest score. Because Humberto's friends live out of state, he needs to
create a game that can be played on different devices with each player's score being saved
and compared to the other friend's scores. He needs help determining the right type of
variable to store the highest player's score for use in his game.

You need to give Humberto advice on the correct type of variable he needs to create for his
game.

Which variable type should you recommend?

A. Table
B. Global
C. Local
D. Cloud

Answer: B

Explanation:

References: http://bjc.berkeley.edu/bjc-r/cur/programming/variables/global-variables.html