

➤ Important terms:-

Words to Know

- **Loop:** It is used to repeat the execution of a group of statements many times.
- **Looping statements:** Statements that enable you to create loops.



RECAP ZONE



- Looping statements are used to repeat the execution of a certain set of statements multiple times.
- FOR...NEXT and DO...LOOP are two looping statements in QBASIC.
- The FOR...NEXT statement is used when you know the number of times a specified set of statements has to be executed.
- The DO...LOOP statement repeats a set of statements while or until a condition is true.
- A FOR...NEXT loop can be stopped by using the EXIT FOR statement.
- A DO...LOOP can be stopped by using the EXIT DO statement.



Practice Zone

Consider the following programs and choose the correct answer.

1. FOR I = 1 to 10 STEP 2
PRINT I
NEXT I

The output of the program is:

- All even numbers from 1 to 10
- All odd numbers from 1 to 10

2. FOR A = 50 to 1 STEP -1
PRINT A
NEXT A

The output of the program is:

- Numbers from 1 to 50 in ascending order
- Numbers from 1 to 50 in descending order

Answer:- 1. -(b)

2. -(b)

ACTIVITY ZONE



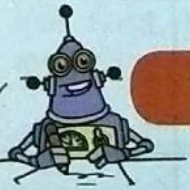
The following program should take the percentage of 10 students from the user and display the average percentage. Fill in the blanks to complete the program.

```
REM To calculate the average percentage
CLS
sum = _____
```

Answer:- Sum = 0

```
FOR I = 1 TO 10
PRINT "Enter the percentage of student number"; i
INPUT percentage
sum = sum + _____
NEXT I
average = sum/_____
PRINT "The average percentage is"; average
```

Answer:- Sum = Sum + Percentage
Average = Sum / 10



Practice Zone

Write a program to display your name multiple times using DO WHILE...LOOP.

Answer:-

```
CLS
I = 1
DO WHILE I <= 10
PRINT "YOUR NAME"
I = I + 1
LOOP
END
```



ASSESSMENT
ZONE

A. Choose the correct answer.

- Which of the following looping statements is most suitable when a number of statements have to be executed a fixed number of times?
 - DO WHILE...LOOP
 - DO UNTIL...LOOP
 - FOR...NEXT
 - None of these
- The default value of the step value is _____.
 - 1
 - 0
 - 1
 - None of these
- The step value can be _____.
 - a positive value
 - a negative value
 - a decimal value
 - All of these
- How many times will the following loop be executed?


```
X=0
DO WHILE X>10
PRINT "*"
LOOP
```

 - 10
 - 5
 - 0
 - 9
- In a FOR...NEXT loop, if the final value is less than the initial value, then the STEP value should be _____.
 - Positive
 - negative
 - zero
 - None of these
- What will be the output for the following program?


```
FOR V=1 TO 10
NEXT V
PRINT V
```

 - 1
 - 10
 - 11
 - None of these

Answers of Choose the correct answer:-

Answer:- 1. -(c) 2. -(a) 3. -(d) 4. -(a) 5. -(b) 6. -(c)

B. Write the value taken by the control variable in the following FOR statements.

FOR statement	Values
1. FOR X=5 TO 10 STEP 2	5, 7, 9
2. FOR X=20 TO 1 STEP -5	
3. FOR X=100 TO 105	
4. FOR X=4 TO 6 STEPP 0.5 .	

Answers of B:-

(1) 5, 7, 9

(2) 20, 15, 10, 5

(3) 100, 101, 102, 103, 104, 105

(4) 4, 4.5, 5, 5.5, 6

C. Find error(s) in the following programs and write the correct code.

1. FOR R=1, 5

PRINT R

NEXT A

2. X=1

DO LOOP X<5

PRINT X

X=X+1

WHILE

C. Answer the following questions:-

1. **Answer:-** FOR R = 1 TO 5

PRINT R

NEXT A

2. **Answer:-** X=1

DO WHILE X<5

PRINT X

X = X+1

LOOP

D. Answer the following questions.

1. What is a loop? How can you create loops in QBASIC?
2. What is the use of step value in a FOR...NEXT loop?
3. How is a DO WHILE...LOOP different from DO UNTIL...LOOP?
4. Give the significance of the EXIT DO and EXIT FOR statements.
5. What should be the step value in the following code?

```
REM Display multiples of 3
FOR I=3 TO 30 STEP _____
    PRINT I
NEXT I
```

D. Answer the following questions:-

1. **Answer:-** A loop is used to repeat the execution of a group of statements many times. Statements that enable us to create loops are known as looping statements. By using looping statements we can create loops.
2. **Answer:-** Step value is the value by which the counter variable is incremented or decremented every time the loop body is executed.
3. **Answer:-** The DO WHILE...LOOP is executed as long as the specified condition is TRUE.
But,
DO UNTIL.... LOOP is executed the loop continuously as long as condition is false.
4. **Answer:-** Exit for statement stop the execution of a FOR... NEXT LOOP. And Exit do statement stop the execution of a Do ... loop.
5. **Answer:-** Step value should be 3 for the given program.

- E. The following program was written to display even numbers between 4 and 44 in reverse order. The program is not giving the desired output. Identify and correct the mistake in the program.

```
REM Program to display even numbers
```

```
FOR X=44 to 4 STEP 4
```

```
PRINT X
```

```
NEXT X
```

- E. **Answer:-**

```
REM Program to display even numbers
```

```
FOR X = 44 TO 4 STEP -4
```

```
PRINT X
```

```
NEXT X
```

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