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CECS 100

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Homework 8

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Multiple Choice

1. B-condition
2. D-iteration
3. B-posttest
4. C-infinite
5. D-accumulator

True or False

1. False
2. False
3. False
4. True
5. True

Short Answers

1. Indent is important for the body of the loop so that the loop knows about the surrounding codes to what to execute.
2. Condition Controlled loop is the loop that is only executed when certain condition is true.
3. Initialization, Test, and Increment
4. For loop looks count controlled loop in a flowchart
5. The value of a sentinel needs to be carefully selected because it can’t be mistaken as a regular value in the list

Algorithm Workbench

5)      int t

t = 0

for x = 1 to 30

                t = t + x  / 31-x)

next

7)      do {

print “Enter a value”

input x

}

while (x>0);

9)      declare int count

for (count = 0; count < 50; count++)

{

display “The count is ” + count

}

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**Short Answer:**

1)      Means bad input leads to bad output.

2)      Process of validating all input before using it.

3)      Priming read is to control, repetition.

4)      Because statements are only executed once before the test.

**Debugging Exercises:**

1)      Forgot to input amount at end of code.

2)      Program does not read user input inside while loop. Invalid input will lead to infinite loop.

3)       Validate the input as case-insensitive using to Lower() function.

Java Code

**import** java.util.Scanner;

**public** **class** practise {

**public** **static** **void** main(String[] args) {

// **TODO** Auto-generated method stub

Scanner key = **new** Scanner(System.***in***);

**int** val = 0;

//using do while statement

**do** {

System.***out***.println("Select ");

System.***out***.println("1- Run the program ");

System.***out***.println("2- Exit the program");

//initiating the process with the user for running the program

**int** val1;

val1 = key.nextInt();

//running the code if the val1 = 1

**if** (val1 ==1){

**int** time , speed , hour;

**double** distance;

System.***out***.println("What is the speed of the vehicle in MPH?");

speed = key.nextInt();

//using while statement to check the speed

**while**(speed<=0)

{

System.***out***.println("What is the speed of the vehicle in MPH? ");

speed = key.nextInt();

}

//getting time from the user

System.***out***.println("How many hours has the vehicle traveled?");

time = key.nextInt();

//again using the while statement to check the time

**while**(time<=0)

{

System.***out***.println("Please enter a valid time ");

time = key.nextInt();

}

//displaying the time for the user

System.***out***.println("Hour Distance");

System.***out***.println("\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_");

hour = 0;

**for**( **int** x = 1; x<=time;x++ )

{

hour++;

**if**(hour>1)

{

distance = time \* speed;

System.***out***.println(time+ " " +distance);}

}

}

//completing the do while statement that started earlier in the program

}**while** (val==2);

System.***out***.println("stop");

}

}