1. If A is false and B is true, then which of the following expressions is false?
   * ~A && B || B Clearly circle only one answer.
   * A || A && B
   * ~(A && B || A)
   * All of the above
2. The expression (fix(1.5) - rem(15,3) ) < 2 is
   * Invalid Clearly circle only one answer.
   * True
   * False
   * None of the above
3. What is the R value after the Matlab code below executes, if Q=5 and T=2?

if (Q>T || Q>8) && (T<=4)

R=Q\*T;

end

if (T==0 || Q==2 || Q>T) && (T>-5)

R=4;

end

1. What is the C value after the Matlab code below executes, if B=60 and C=30?

if (B/C)>=2

C=3;

elseif (B/C) = =2

C=11;

end

1. Use one if-statement to rewrite the following nested if-statement:

if w < x

if w > y

w = x\*y

end

end

1. Which Matlab command is usually used to repeat a set of commands an unknown number of times?
   * while Clearly circle only one answer.
   * for
   * if
2. The following is a correct for statement.
   * for 1:10 Clearly circle only one answer.
   * for i=10:-1
   * for i=10:-3:0
   * for i<10
3. What is the value of JJ after the Matlab code below executes?

JJ=0;

while JJ<4

JJ=JJ+1;

end

1. In order to print formatted integers with the following format,

998,999,1000,1001, for i=998:1001

fprintf(.)

end

Which fprintf statement should be used in the above code (on the right hand side)?

* + fprintf('%d\n', i) Clearly circle only one answer.
  + fprintf('%5d\n', i)
  + fprintf('%d,', i)
  + fprintf('%5.5d\n', i)
  + None of the above

1. if x=95, y= 120 , s=x\*100/y , which is the correct statement that will give the following output when executed,

Success rate is 79.17 %, as 95 passed out of 120.

* fprintf(‘Success rate is %d %%, as %4.1f passed out of %-10.1f. \n',s, x,y)
  + fprintf(‘Success rate is %6.3f %%, as %d passed out of %d.\n', x, s,y)
  + fprintf(‘Success rate is %6.2f %%, as %d passed out of %8d.\n',s, x,y)
  + None of the above

1. What would appear on the screen after the execution of the following script:

|  |  |
| --- | --- |
| i = 1 ;  for x = 1:3  i = i \* x ;  fprintf(‘%d ‘, x) ;  end |  |

1. Write a script that will prompt the user for a temperature in degrees Celsius, and then an ‘F’ for Fahrenheit or ‘K’ for Kelvin. The script will print the corresponding temperature in the scale specified by the user. For example, the output might look like this:

Enter the temp in degrees C: 29.3

Do you want K or F? F

The temp in degrees F is 84.7

The format of the output should be exactly as specified. The conversions follow:

8

1. Write a program that reads customers IDs and waiting time from a 2D array. The program first calculates the average waiting time. Then it prints the following data on the screen
   * The average waiting time
   * Customer ID and waiting time for customers who waits for a time longer than the average waiting time.

*Example:*

*Input 2D array: [34 15; 12 2; 21 24; 35 32; 78 13; 18 8]*

*Output: Average Waiting Time = 15.7*

*Customers who waited longer:*

*ID Waiting*

*21 24*

*35 32*

1. Write a program that reads the coordinates of a point from the user and several points coordinates from an array. The program calculates and prints the distance between the user input point and the stored points. The program prints also the number of the nearest point. Use a function to calculate the distance.

Example:

Input: X=[0 6; 9 0; 5 5; 2 2; 2 7] UserPoint= [0 0]

Output:

Dist= 6.0 9.0 7.1 2.8 7.3

Nearest point is 4

1. Write a script called prtemps that will prompt the user for a maximum Celsius value in the range from –16 to 20; error-check to make sure it’s in that range. Then, print a table showing degrees Fahrenheit and degrees Celsius until this maximum is reached. The first value that exceeds the maximum should not be printed. The table should start at 0 degrees Fahrenheit, and increment by 5 degrees Fahrenheit until the max (in Celsius) is reached. Both temperatures should be printed with a field width of 6 and one decimal place. The formula is C = 5/9 (F – 32). For example, the execution of the script might look like this (the format should be exactly like this):

>> prtemps

When prompted, enter a temp in degrees C in range -16 to 20.

Enter a maximum temp: 30

Error! Enter a maximum temp: 9

F C

0.0 -17.8

5.0 -15.0

.

.

.

40.0 4.4

45.0 7.2

16. Write a program that reads a number N from the user and prints the following multiplication table:

1 2 3 4 5

2 4 6 8 10

3 6 9 12 15

4 8 12 16 20

5 10 15 20 25

17. Write a program that reads a number N from the user and prints the following multiplication table:

1

2 4

3 6 9

4 8 12 16

5 10 15 20 25

18. Write a program that reads from the user two limits, the first limit is the low grade while the second limit is the high grade. Then, the program accepts grades from the user until the user enters a negative value. The program should only accept grades from zero to 100. The program should print out to the user at the end the following: total number of entered grades, number of entered grades between the low and high grade, and the maximum entered grade between the l ow and high grade.

The input and output of the program should look like the shown examples.

|  |  |
| --- | --- |
| **Example 1** | **Example 2** |
| Please enter the low grade:70  Please enter the high grade:80  Enter Grade:100  Enter Grade:120  Error: valid range is [0 - 100]  Enter Grade:77  Enter Grade:73  Enter Grade:79  Enter Grade:88  Enter Grade:99  Enter Grade:0  Enter Grade:75  Enter Grade:-1  Total number of entered grades = 8  Number of entered grades between 70 and 80 = 4  Maximum entered grade between 70 and 80 = 79  \*\*\* End of Program \*\*\* | Please enter the low grade:120  Error: valid range is [0 - 100]  Please enter the low grade:-50  Error: valid range is [0 - 100]  Please enter the low grade:300  Error: valid range is [0 - 100]  Please enter the low grade:60  Please enter the high grade:75  Enter Grade:130  Error: valid range is [0 - 100]  Enter Grade:100  Enter Grade:0  Enter Grade:55  Enter Grade:200  Error: valid range is [0 - 100]  Enter Grade:-1  Total number of entered grades = 3  No grades entered between 60 and 75  \*\*\* End of Program \*\*\* |