**PRG155 – Programming Fundamentals Using C**

**Lecture Test 1**

|  |  |  |  |
| --- | --- | --- | --- |
| Student Name |  | Section |  |
| Student ID |  | Date |  |

**1. (1 mark each) Determine the EXACT output of each of the following programs:**

**Output:**

#include<stdio.h>

int main(){

int maxV=60;

int minV=20;

int avgV;

avgV = maxV + minV / 2;

printf(“%d”, avgV);

return 0;

}



**Output:**

#include<stdio.h>

int main(){

int var1=2, var2;

var2=2+3\*var1++;

printf(“%d\n%d”,var1, var2);

return 0;

}

**2. (1 mark) If choice is ‘a’, what will be the output that is displayed?**

switch(choice) **Output:**

{

case ‘q’:

case ‘R’:

printf(“Programming”);

case ‘B’:

case ‘a’:

printf(“C”);

default:

printf(“Seneca”);

}

**3. (4 marks)** Write a C code segment that prompts the user to enter capacitance C and frequency ƒ. The program should calculate reactance , where π = 3.14, and print the result to 2 decimal places. You may use the back of this page if you need more space. Do not detach any pages!

**4. (.5 mark each) Circle True or False for the following statements:**

|  |  |  |
| --- | --- | --- |
| If a=6 and b=15, the expression: **!(b<=12) && a%2 ==0** will produce: | True | False |
| If double a=6, **printf(“%lf”, a)**; will produce **6.00** | True | False |
| The expression **y+=x** is equivalent to **y=x+1** | True | False |
| **9\_num** is a valid variable name | True | False |

**5. (2 marks) Fill in the missing code fragments where underlined.**

/\* This code is intended to calculate and display the cost of shipping a package based on its weight. The cost is calculated as follows: $7 for packages weighing less than five pounds, $12 for packages weighing five pounds or more but less than twelve pounds, and $20 for packages weighing twelve pounds or more.\*/

if (weight<5)

{

shippingCost = 7;

}

else if (\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_) //missing if condition

{

shippingCost = 12;

}

else

{

shippingCost = 20;

}

printf(\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_) //missing code: display

//shipping cost

**6. (4 marks)** Write a C code segment that prompts the user to enter the number of hours an employee worked last week. The program should compute and display a person’s weekly gross salary as determined by the following: If the hours worked are less than or equal to 44 hours, the person receives $18.00 an hour. If the person works over 44 hours, the person receives $792.00 plus $27.00 for each hour worked over 44 hours. You may use the back of this page if you need more space. Do not detach any pages!