1. What will be the output of the following pseudocode?

char str[20]

s=string length(str)

str[5]=NULL

s=strlen(str)

print s

garbage value

6

4

**5**

Explanation: Here, s is assigned a string length of str[20]. Later, the index of 5th position is made null. So, the strlen() function counts the length until the array value at particular index becomes NULL. Here, it will count upto the index of 4 because index 5 is NULL. As we know the index starts from 0. Now the length is from 0-4. Ie.. length of the string is 5.

2. #include <stdio.h>

void fun(char\*\*);

int main()

{

char \*argv[] = {"ab", "cd", "ef", "gh"};

fun(argv);

return 0;

}

void fun(char \*\*p)

{

char \*t;

t = (p+= sizeof(int))[-1];

printf("%s\n", t);

}

ab

gh

ef

**cd**

Explanation: case:1: sizeof(int) is compiler dependent ..  
  
if sizeof(int) = 2  
then   
  
t = (p += sizeof(int))[-1]  
t = (p = p + 2)[-1]  
t = \*(p + 2 -1) = \*(p+1) = address of second element i.e. 'cd'  
  
case 2: if sizeof(int) = 4  
then   
  
t = (p += sizeof(int))[-1]  
t = (p = p + 4)[-1]  
t = \*(p + 4 -1) = \*(p+3) = address of forth element i.e. 'gh'.

3. How many times Capgemini is printed on console?

int main()

{

int a = 0;

while(a==0)

{

printf("Capgemini");

}

return 0;

}

1

2

**infinate**

none

Explanation:

Answer is infinite because the a value is assigned to zero and that value in never changed. The while condition is true for every case and the loop turns to infinity.

4. Himanshu wants to write a program to print the larger of the two inputted

number. He writes the following code:

int number1, number 2

input number1, number 2

if (??) // Statement 1

print number1

else print number2

end if

Fill in the ?? in statement 1.

number2 equals number1

number1 <= number2

number2>number1

**number1>number2**

Explanation: here himanshu wants to print the larger number. So, the condition forprinting the larger number is number1>number 2. Because we are printing number1 first in the program.

5. Sharmili wants to make a program to print the sum of all perfect cubes, where the

value of the cubes go from 0 to 100. She writes the following program:

integer i = 0, a // statement 1

integer sum = 0;

a = ( i \* i \* i )

while ( i < 100 ) // statement 2

{

sum = sum + a // statement 3

i = i + 1

a = ( i \* i \* i ) // statement 4

}

print sum

Does this program have an error? If yes, which one statement will you modify to

correct the program?

Statement 1

Statement 3

Statement 4

**Statement 2**

Explanation: she wants to go from 0 to 100 all perfect cubes so we have to change the while condition here.

6. What will be the output of the following pseudocode if a=1 and b=2?

dosometing(Integer a, integer b)

if (b EQUALS 1)

return 0

else

return a + dosometing(a,b-1)

end function dosometing()

4

3

**1**

2

Explanation:

b=2,a=1;

passing values to the function

here b is not equal to 1. So, goes to else condition.

Then 1+dosomething(1,1)

Again we will call the function..here b is 1..it will return 0;

So..it becomes 1+dosomething(1,1)= 1+0=1

7. int fun(int i)

{

i++;

return i;

}

int main()

{

int fun(int);

int i=3;

fun(i=fun(fun(i)));

printf("%d\n", i);

return 0;

}

**5**

Error

4

Garbage value

Explantion: here calling the function takes place two times. The value will be incremented 2 times. The value becomes 5.

8. int a,b,c;

a = b = c = 10;

c = a++ || ++b && ++c;

printf("%d %d %d",c, a, b);

10 11 10

10 11 1

**1 11 10**

1 1 10

Explanation: c = a++ || ++b && ++c;

In this statement, the OR condition will check for true,,if one statement is true then it won’t go for next condition. So only a++ will be executed. It will return true to c. so c value is 1. a is incremented it value becomes 11. B is not executed so b value is 10.

9. int addmult(int ii, int jj)

{

int kk, ll;

kk = ii + jj;

ll = ii \* jj;

return (kk, ll);

}

int main()

{

int i=3, j=4, k, l;

k = addmult(i, j);

l = addmult(i, j);

printf("%d, %d\n", k, l);

return 0;

}

12,7

7,12

7,7

**12,12**

Explanation: parameters for the function addmult(3,4)

In the function , sum and product is calcuted. The returning parameters from function are k=(7,12)

In this case, 12 will be assigned to k.

10. What will be the output of the following pseudocode?

Integer fun(Integer c)

print c

if(c<3)

c=c+2

fun(fun c)

end if

return c

end function fun

Value of c is 1

1

1 3 5

**1 3 3**

3

Explanation: the initial value of c=1;

Print 1

Check for the condition..(c<3) true so c=c+2=3,

Passing c=3;

Print 3

Condition is false

Return 3

So output is 1 3 3

11. int array[10] = {3, 0, 8, 1, 12, 8, 9, 2, 13, 10};

int x, y, z;

x = ++array[2];

y = array[2]++;

z = array[x++];

printf("%d %d %d", x, y, z);

return 0;

9 9 10

**10 9 10**

9 10 9

None

Explanation: x=++array[2]; // x=++8=> x=9

y = array[2]++;// y= 9++// y=9(post increment)

z= array[x++]=array[9]=10, x=10

x=10, y=9, z=10

12. unsigned int a = -1;

int b = ~0;

int result;

if (b == a)

printf("equal");

else

printf("unequal");

return 0;

Compile error

unequal

**equal**

0

Explanation: a is unsigned bit. B is assigned to not zero ie, it is 1. The condition is true. So output is equal.

13. Bhavya wants to make a program to print the sum of all perfect squares, where

the value of the squares go from 0 to 50. She writes the following program:

integer i = 1, a // statement 1

integer sum = 0

while ( a < 50 ) // statement 2

{

10

sum = sum + a // statement 3

i = i + 1

a = ( i \* i ); // statement 4

}

print sum

Does this program have an error? If yes, which one statement will you modify to

correct the program?

Statement 2

Statement 4

Statement 3

**Statement 1**

Explanation: statement 1, i=0.

14. struct DataFlair

{

int a;

float b;

char array[20];

}d;

int main()

{

printf("%ld", sizeof(struct DataFlair));

return 0;

20

29

**28**

26

Explanation: int size=4, float=4, char array= 20, total = 28

15. integer a = 60, b = 35, c = -30

What will be the output of the following two statements:

print ( a > 45 OR b > 50 AND c > 10 )

print ( ( a > 45 OR b > 50 ) AND c > 10 )

**1 and 0**

0 and 0

1 and 1

0 and 1

Explanation: aa>45(true) no need check for other. so it returns true ie 1

a>45(true) AND c>10(false) 🡺 false, it return 0.

16. What will be the output of the following pseudocode? Declare integer c,d,r

Integer array[6]={23,45,67,12,13 25} For(c=0;c<5;c++)

For(d=0;d<5-c-1;d++)

If(array[d]>array[d+1])

R=array[d]

Array[d]=array[d+1]

Array[d+1]=r

End if

End for

For(c=0;c<5;c++) Print array[c] End for

67 45 23 13

45 67

67 45 23 13 12

**12 13 23 45 67**

Explanation: for c=0; d=0, for array[d]>array[d+1] condition is false.

d=1, for array[d]>array[d+1] condition is false

d=2 for array[d]>array[d+1] condition is true// swapping

this is code for sorting. The output will be in ascending order.

17. if(sizeof(double) > -1)

printf("M");

else

printf("m");

return 0;

Compiler error

None

M

**m**

**explanation:**

smaller than int are promoted to either int or unsigned int before they are used in most expressions. The rule is that if int can represent all the values of the smaller type, then it is promoted to int; otherwise it is promoted to unsigned int. This is often considered something of a wart, because in many cases it causes unsigned char and unsigned short values to be promoted to int.

18. #include<stdio.h>

int fun(int);

int main()

{

float k=3;

fun(k=fun(fun(k)));

printf("%f\n", k);

return 0;

}

int fun(int i)

{

i++;

return i;

}

4.000000

3.000000

**5.000000**

Garbage value.

Explanation: here calling the function takes place two times. The value will be incremented 2 times. The value becomes 5.

19. What will be the output of the following pseudocode?

Read n

for(each k from 1 to n)

r = k mod 7

if (r NOT EQUALS 0)

print k

end if

end for

**To print all the integer from 1 to n omitting those integers which are divisible by 7**

To print all the integer from 1 to n which are multiple of 7

To print all the integer from 1 to n which are divisible of 7

None of the mentioned option

Explanation: here the numbers which leaves remainder when divisible by 7 are printed. Multiples of 7 are not printed.

20. #define PRODUCT(x) (x\*x\*x\*x)

int x = 2;

int result = PRODUCT(x++);

printf("%d %d", x, result);

"2 16 "

"3 81 "

**"6 120 "**

6 1296

Explanation: (x++ \* x++ \* x++ \* x++)= (2\*3\*4\*5)=120, x=6

21. int x = 6;

int y = 4;

int z;

if(!x >= 5)

y = 3;

z = 2;

printf("%d %d", z, y);

return 0;

23

32

**24**

42

Explanation: here the condition is false. Z=2 and y=4

22. Predict the output of the following segment of code:If n and p are unsigned int variables in a C program. We wish to set p to nC3. If n is large, which of the following statements is most likely to set p correctly?

**"p = n \* (n-1) / 2 \* (n-2) / 3; "**

"p = n \* (n-1) \* (n-2) / 6; "

p = n \* (n-1) \* (n-2) / 6.0;

"p = n \* (n-1) / 3 \* (n-2) / 2; "

Explanation: formula.

23. Shalini wants to program to print the largest number out of three inputted

numbers. She writes the following program:

int number1, number 2, number3, temp;

input number1, number2, number3;

if (number1>number2)

temp = number1

else

16

temp = number2

end if

if (??) // Statement 1

temp = number3

end if print temp

Fill in the ?? in Statement 1

number3 > number1

**number3 > temp**

number3 > number2

number3 < temp

explanation: code for finding largest number.

The condition should be number3>temp

24. struct DataFlair

{

int value;

struct DataFlair \*link;

};

struct DataFlair \*x, \*y;

x = (struct DataFlair \*) malloc(sizeof(struct DataFlair));

y = (struct DataFlair \*) malloc(sizeof(struct DataFlair));

printf("%ld %ld",sizeof(x),sizeof(y));

return 0;

Compile error

**8 8**

2 2

4 4

Explanation: size of int 4 bytes and struct data flair of struct pointer of 4 bytes

Total 8.

25. What will be the output of the following pseudocode?

1. Integer i, sum

2. set i = 1,sum =0

3. sum = sum + i

4. if(sum>500)

5. print if

6. end if

7. else

8. i = i +1

9.go to line 3

**32**

64

16

33

1. Below is a pseudo code

Set x to 0;

Set n to 1;

while(n<=100)

x=x+n;

n=n+1;

end

write x

What is the output of the above pseudo code?

4950

100

**5050**

5151

Explanation: intial x=0,n=1, x is replaced with n value and n value is incremented by 1.

Sum of first 100 natural numbers.

2. A symbol used for grouping.

**()**

[]

{}

""

3. Another notation for exponentiation.

\*

\*\*\*

\*^

**\*\***

4. What will be the output of the pseudocode?

integer a, b, count, count1

Set a = 1, b=1

while(a<=5)

b=1

while(b<=5)

b=b+1

count1 = count1 + 1

end while

a = a+1

count = count + 1

end while

Print count, count1

**Count = 50, count1= 5**

Count = 5, count1 = 25

Count = 45, count1 = 25

Count = 50, count1 = 25

Explanation: for 5 times of b while loop the value of count1 will be 5

for 5 loops of a along with the loop of b the value of count will be 50.

5. \_\_\_\_\_\_\_ are identified by their addresses, we give them names (field names/ variable names) using words.

Data variables

**Memory locations**

Memory addresses

Memory variables

6. The statement that tells the computer to get a value from an input device and store it in a memory location.

read

**READ**

WRITE

write

7. A statement used to close the IF block.

**ENDIF**

END

ELSEIF

ELSEIF

8. What will be the output of the following pseudocode?

Integer a, b, c, d, e

Set a=50, b=3, c=3

While(c>0)

D=a mod b

E= e + d + a

C = c-1

End while

Print e

15

100

156

**52**

Explanation: here, a=50 , d= 50%3=2, d=2

E= 0+ 2+50

E= 52.

9. What will be the output of the following pseudocode for i = 140?

Integer fun(integer i)

If((i mod 2) NOT EQUALS 0)

Return i

Else

Return fun(fun(i-1))

End function fun()

**139**

140

138

None

Explanation: i=140. 140%2=0 so call fun(fun(139)

That will return 139

Again call function with 139

Again it wil return 139.

10. What will be the output of the following pseudocode?

Integer a, b, c

Set a = 10, b = 20

for(c=a; c<=b; c=c+2)

a = a+c

b = b-a+c

if(a>10)

Print a

else

Print b

end if

end for

**20**

10

40

30

Explanation: initially a=10, c=10, b=20.

In for loop.

a=a+c, a=10+10, a=20

b=b-a+c=10;

if(a>10) (true) because a is 20

so print a value.

11. What will be the output of the following pseudocode?

Integer a,b,c

Set a=6, b=84

while(b>0)

b=b/2

a=a+6

c=a+b

while(c>40)

if(c mod 2 IS EQUAL TO 0)

Print a

else

Print b

c=c/10

End while

End while

Print c

48, 4

12, 4

12, 1, 4

**12, 1, 48, 4**

Explanation: initial b=84, a=6

In while loop, b=42, a= 12, c=42+12= 54

Another while, c>40 (true),

Print a// 12

C=c/10 =5

While(c>40)(false)

Go to first while…..continue the same process.

The output will be  **12, 1, 48, 4**

12. \_\_\_\_\_\_ is used to show hierarchy in a pseudo code.

Round brackets

**Indentation**

Semicolon

Curly braces

13. \_\_\_\_\_\_\_\_ begins with lower case letters.

Tokens

Functions

Keywords

**Variables**

14. Keep the statement language \_\_\_\_\_\_\_\_\_\_ while writing a pseudo code.

**Independent**

Case sensitive

Capitalized

Dependent

15. What will be the output of the following pseudocode?

Integer array1[10] = {2, 3, 56, 34}

Integer k, a, j, n

Set a=3, n=4

For(each k from 0 to n-1)

Set array1[n] = array1[10]

for(each j from 0 to n-1)

Set array1[j] = array1[j+1]

End for

End for

for(each k from 0 to n-1)

Print array1[k]

End for

2, 3, 34, 56

34, 2, 3, 56

56, 34, 3, 2

**None of the mentioned options**

Explanation: the array values of array1[10] are set to array1[n] ie from array1[0] to array1[3]

Setting all the indexes to one position left. array1[j] = array1[j+1]

Ie. The output will be 3,56,34.

16. Consider following given algorithm and identify the task performed by this

bstree(\*tree)

{

while((tree->left != null)&&(tree->right !=null))

{

if(tree-><tree->root)

bstree(tree->left);

else

return(1);

if(tree->right>tree->root)

bstree(tree->right);

else

return(1);

}

return(0);

}

Bubble sort

None of the mentioned options

**Test whether a binary tree is a binary search tree**

Prim’s algorithm

Explanation: in this code we are placing if the element is less than root placing at left and if greater it is placed in right. This is the rule of BST(binary search Tree).

17. Below is a pseudo code

Set x to 1;

Set x1 to 0;

Set x2 to 0;

Set x3 to 1;

While(x<10)

Set x1=x1+x2+x3;

Set x2=x2+x1+x3;

Set x3=x3+x2+x1;

Write x1;

Write x2;

Write x3;

X=x+1;

In which series is the output?

Triangular series

Arithmetic series

Fibonacci series

**Tribonacci series**

Explanation: x=1,x1=0,x2=0,x3=1

X1=1, x2= 2, x3=3 for first iteration

X1=6 , x2= 11, x3= 17 for second iteration and so on..

This is tribanoci series.

18. Capitalize initial keyword - This is a rule while writing a pseudo code.

**True**

False

19. What will be the output of the following pseudocode?

Integer a, b

Set a=2, b=50

while(b>0)

a= b MOD 2 + a

if(a MOD 3 IS EQUAL TO 0)

Print (a)

else

Print(b-1)

b=b/5

a=a+1

end while

50,10,2

50,302

**49, 3, 1**

3,3,3

Explanation: for first condition a=2, and if(a MOD 3 IS EQUAL TO 0) is false

So print(50-1) 🡺 print 49….

b=b/5🡺10,

49 is in the option no need to calculate further.

Else do the same process

20. What will be the output of following pseudocode?

Integer I, j, sum, n

Set sum=0, n=7

Repeat for I = 1 to n

Sum = sum + (i\*i)

End loop

Print sum

160

120

**140**

100

Explanation: Sum = sum + (i\*i)=0+(1\*1)🡺 1+(2\*2)🡺5+(3\*3)….

Sum of squares of first n natural numbers up to n=7.

21. What will be the output of the pseudocode?

Integer x, y, z

Set x=10, y=12, z=12

Z=(x+y)/4

If(z IS EQUAL TO 12)

Print successful

Else

Print unsuccessful

**unsuccessful**

error

None

successful

explanation: x=10, y=12, z=(10+12)/4=22/4=5

If(z IS EQUAL TO 12)🡺flase

So print unsuccessful.

22. What will be the output of the pseudocode?

Integer num, x, y, count

Set num = 89, count = 0

x = num<<1

y= x^num

y= y+1

while((y/2)NOT EQUALS 0)

if(y MOD 2 NOT EQUALS 0)

Count = count + 1

Else y=y/2

End if

End while

if(count)

Print”0”

Print y

Else

Print 1

Print x

None of the above

Error

**“0”y**

1 x

Explanation: x is left shifted the value gets doubled. 178

Calculate the value of y = x^ 89.

Calculate the value of count.

The output will be 0 y. because count will be greater then 0.

23. What will be the output of the following pseudocode for given set of input?

Integer a

if((a MOD 10) IS EQUAL TO 0)

a = a \* 2

else if((a MOD 5) IS EQUAL TO 0)

a = a/5

else

a = a-1

end if

a = 25, a=15

**a = 5, a=15**

a = 35, a=25

a = 15, a=20

24. Which of the following is not a keyword?

Read

Endif

**Start**

Write

25. What will be the output of the following pseudocode?

Integer j, i, count, num

Set j=31, count = 0, num = 64

While(num NOT EQUALS 0)

if((num&1) is EQUAL to 1)

Jump out of the loop

else

count= count+1

num = num>>1

End while

Print count

95

**6**

12

5

Explanation: first time (num&1) returns 64 so if condition is false

Go to else num is right shifted the value is halfed. Num=32.

Count=1

Second time (num&1) returns 32 so if condition is false

Go to else num is right shifted the value is halfed. Num=16.

Count=2

3rd time (num&1) returns 16 so if condition is false

Go to else num is right shifted the value is halfed. Num=.8

Count=3

4th time (num&1) returns 8 so if condition is false

Go to else num is right shifted the value is halfed. Num=4.

Count=4

5th time (num&1) returns 4 so if condition is false

Go to else num is right shifted the value is halfed. Num=2.

Count=5]

6th time (num&1) returns 2 so if condition is false

Go to else num is right shifted the value is halfed. Num=1.

Count=6

7th time (num&1) returns 1 so if condition is true

Jumps out of the loop.