

Consider the following pseudocode: What would be the output of the pseudocode if the input to the program was 15? START Integer TotalNum, NumBoys, NumGirls, BoysPercent SET BoysPercent=10 GET NumBoys SET TotalNum = (NumBoys*100)/BoysPercent SET NumGirls = (TotalNum*(100-BoysPercent-1))/100 Print Total number of pupils: ,TotalNum Print Number of girls: ,NumGirls STOP

- Total number of pupils: 115

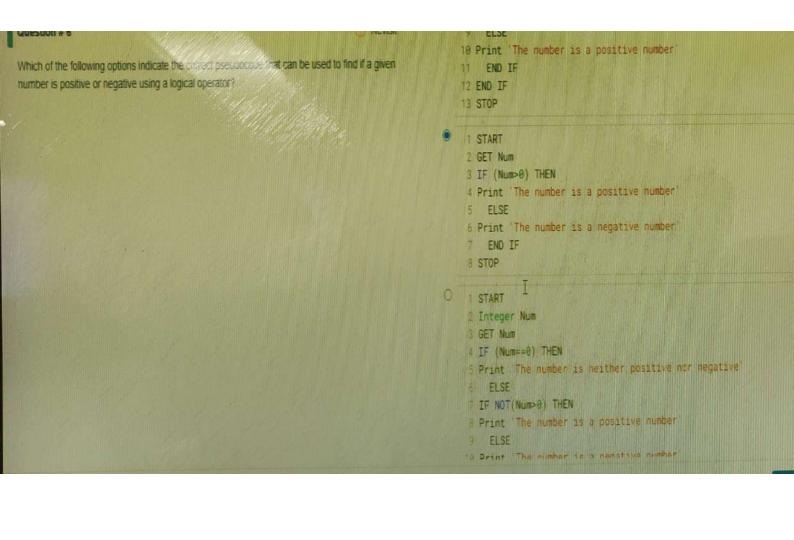
 Number of girls: 133
- Total number of pupils: 150
 Number of girls: 134
- O Total number of pupils: 125 Number of girls: 137
- Total number of pupils: 150 Number of girls: 135

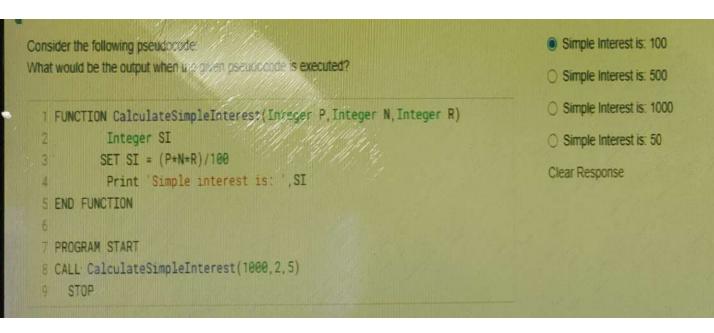
Your requirement is to find out the grades and specific amount of fees that need to be paid according 1 Implemented below set of pseudocode in to the grade they earned. It can be called anywhere multiple times. How will you do? 2 main program itself 3 Start 4 main() 5 Let marks = 94; 6 if marks >= 90 then 7 grade = 'A'; 8 fees = 10000; 9 else if marks >= 80 and marks <90 then 11 else if 12 Stop 18 One needs to write this set of code wherever 14 required Implemented below set of pseudocode 2 in a routine(function). 3 Start 4 def calculateGradeAndFees(int marks) 5 if marks >= 90 then 6 grade = 'A' 1 7 fees = 10000;

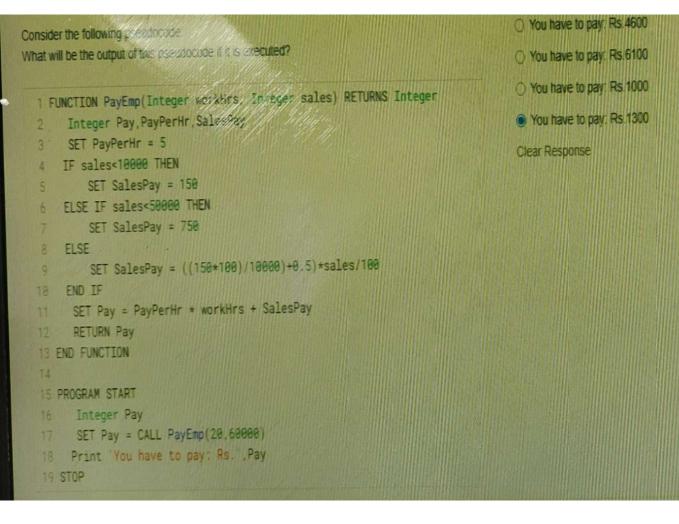
Your program needs to assign designations to an employee according to their seniority level and the 1 Let the age of employee = 50 years of service they did in an organization. How will you implement that? 2 Let years of service = 10 3 if (age of employee > 40) and years of service 4 > 5) { 5 BAND = 'A'; 6 else if (age of employee > 40) { 7 BAND = "B" 8 1 Let the age of employee = 50 2 Let years of service = 10 3 if (age of employee > 40 and years of service 4 > 5) { 5 BAND = 'A'; 6 else if (age of employee > 40 and years of service 7 > 2) { 8 BAND = "B" O | Let the age of employee = 50 2 Let years of service = 18 3 if (age of employee > 40) { A RAND = A

```
Your program needs to assign designations to an employee according to their seniority level and the
                                                                                         1 Let the age of employee = 50
years of service they did in an organization. How will you implement that?
                                                                                          2 Let years of service = 10
                                                                                          3 if (age of employee > 40) and years of service
                                                                                          4 > 5) {
                                                                                          5 BAND = 'A';
                                                                                          6 else if (age of employee > 40) {
                                                                                          7 BAND = "B"
                                                                                          8 .....
                                                                                         1 Let the age of employee = 50
                                                                                          2 Let years of service = 10
                                                                                          3 if (age of employee > 4\theta and years of service
                                                                                          4 > 5) {
                                                                                          5 BAND = 'A';
                                                                                          6 else if (age of employee > 40 and years of service
                                                                                          B BAND = "B"
                                                                                     1 Let the age of employee = 50
                                                                                          2 Let years of service = 18
                                                                                          3 if (age of employee > 48) {
```

```
You are asked to write arithmetic routines and put everything in a stille routine. Write sample
                                                                                   1 //A calculator routine containing arithmetic
snippet code for that
                                                                                        2 //routines like +/- etc
                                                                                        3 def calculatorOperation(int num1, int num2,
                                                                                        4 char operation) {
                                                                                        5 switch(operation) {
                                                                                        6 case '+' : result = num1 + num2;
                                                                                        7 break;
                                                                                        8 case '-' : result = num1 - num2;
                                                                                        9 break;
                                                                                       10 //Rest of the operations
                                                                                       12 print("Result = " + result)
                                                                                       14 //If user wants to perform addition then
                                                                                       15 call calculatorOperation(10000,5000, + )
                                                                                       16 //must be passed and hence output will be
                                                                                       17 15000
                                                                                       1 //A calculator routine containing arithmetic
                                                                                       3 def calculatorOperation(int num1,int num2,
```





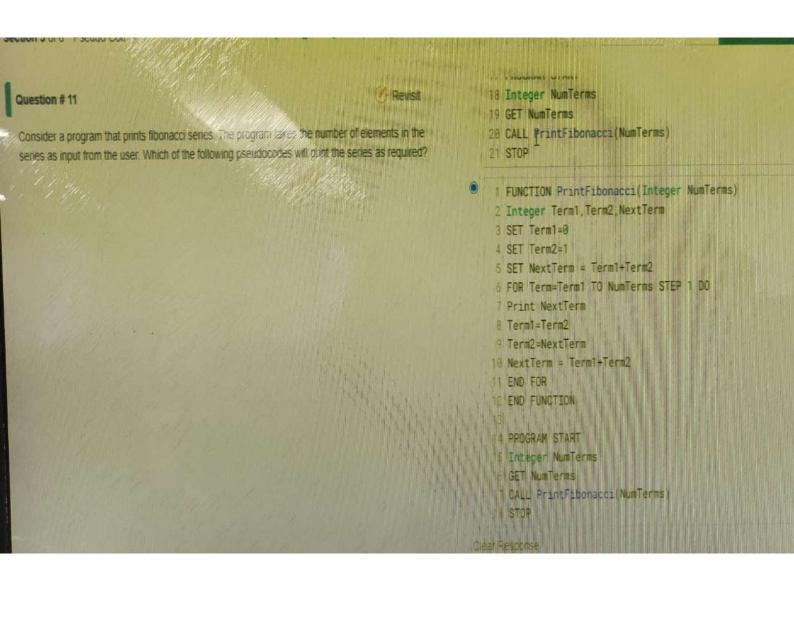


| O 12 |
|----------------|
| Q 24 |
| O 64 |
| Clear Response |
| |
| |
| |
| |
| |

Consider a program that calculates the factoral of a given number. The program takes the number as input from the user and uses a recursive function to calculate the factorial. Which of the following options indicate the correct pseudocode so make menting given regram?

14 STOP 1 FUNCTION CalculateFactorial(Integer Num) RETURNS Integer 2 IF (Num<2) THEN 3 RETURN 1 4 ELSE 5 RETURN Num * CALL CalculateFactorial(Num-1) 6 END IF 7 END FUNCTION 9 PROGRAM START 10 Integer Num, Factorial 11 GET Num 12 SET Factorial = CALL CalculateFactorial(Num) 13 Print 'The factorial for number ', Num, 'is ', Factorial 14 STOP O | FUNCTION CalculateFactorial(Num) 2 IF (Num<=1) THEN 3 RETURN 1 4 ELSE 5 RETURN Num * CALL CalculateFactorial(Num-1) 5 END IF

T FND FUNCTION

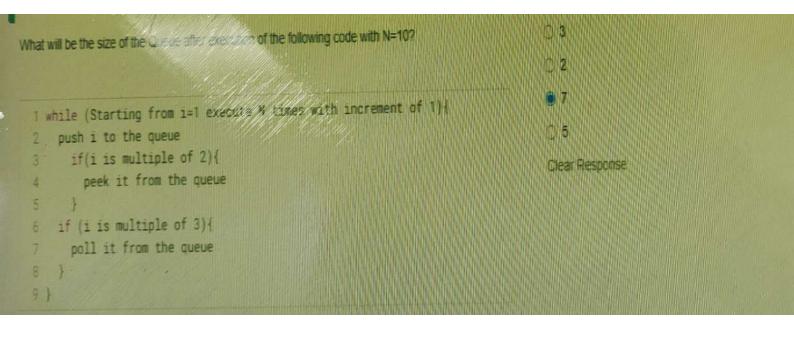


```
How many times the function will be called reconstruction for input x=10 & y=7 in the given pseudocode?
                                                                                06
                                                                                 7
  1 Function (input x, input y)
                                                                                 08
        If x < y Then
           return function(y, x)
                                                                                 0 10
        Else If y != 0 Then
                                                                                 Clear Response
           integer z = function(x, y-1)
             Z= Z+X
            return z
       Else
      return 0
       End If
 12 End Function
```







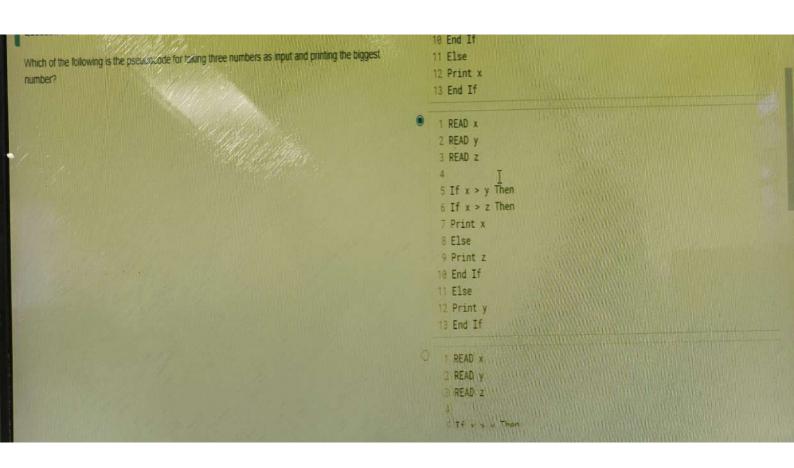


Question #17

Previsit

Provide a sample snippet of Pseudocode for "Stack" operation, i.e. LIFO principle. You are taking ten items and display them in LIFO principle. Let Last in Pires Out Principle.

```
a river mames one by one and are in took
   3 nameCount = 10;
   4 for (int i = 0; i < nameCount;i++) {
   5 //Get name and add in nameList
   6}
  1 ArrayList nameList = new ArrayList();
   2 //Get names one by one and add in loop
   3 nameCount = 10;
   4 for (int i = θ; i < nameCount;i++) {
   5 //Get name and add in nameList
   6 }
   7 //Display in LIFO order
   8 for (int i = nameListllength(); i > 0;i--) {
   9 System.out.println(nameList.get(i).toString())
   18 }
O 1 ArrayList nameList = new ArrayList();
    2 //Get names one by one and add in loop
    3 nameCount = 10;
    4 for (int i = θ; i < nameCount;i--) {
    5 //Get name and add in nameList
    7 //Display in LIFO order
    8 for (int i = nameList.length(); i > 0;i--) {
    3 Suctam out meintle/named jet not/il testrine/ll
```



* T START 2 Integer A, B, C, Largest Consider a program that takes three numbers as input and then prints the greatest of the three numbers. Which of the following pseudocodes will give the correct answer? 3 Get A, B, C 4 IF(A>B) AND (A>C) THEN 5 SET Largest = A 6 ELSE 7 IF (B>A) AND (B>C) THEN B SET Largest = B 9 ELSE 18 SET Largest = C 11 END IF 12 END IF 13 Print 'The largest number is ', Largest 14 STOP START 2 Get A.B.C 3 IF(A>B) OR (A>C) THEN # SET Largest = A 5 ELSE W IF (B>A) OR (B>C) THEN T SET Largest = B 8 ELSE SET Largest = C



Consider the given codes and choose the option that is associated with these codes.

Code 1:

function average_mark(set_of_marks)

end function

Code 2:

halfterm_marks = [53,60,80]

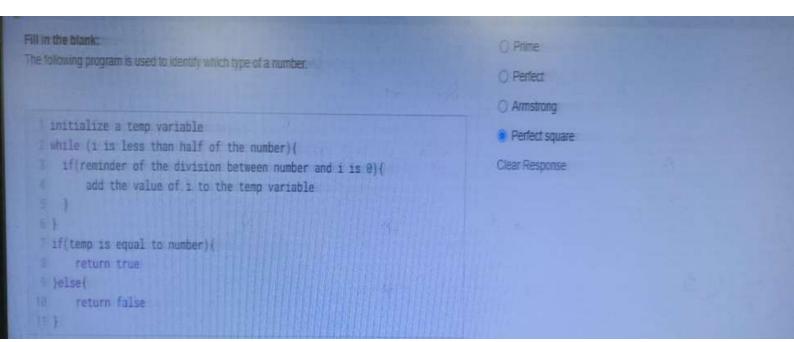
print "The average is."
print average_mark(halflerm_mark)

Revisit

Formal Parameter - set_of_marks Actual Parameter - halflerm_mark

Choose the best option

- Formal Parameter halfferm_mark
 Actual Parameter set_of_marks
- Formal Parameter average_marks Actual Parameter - halflerm_marks
- Formal Parameter haifterm_marks Actual Parameter - average_marks



Consider the following pseudocode:

What would be the output of the pseudocode if the input to the program was 15?

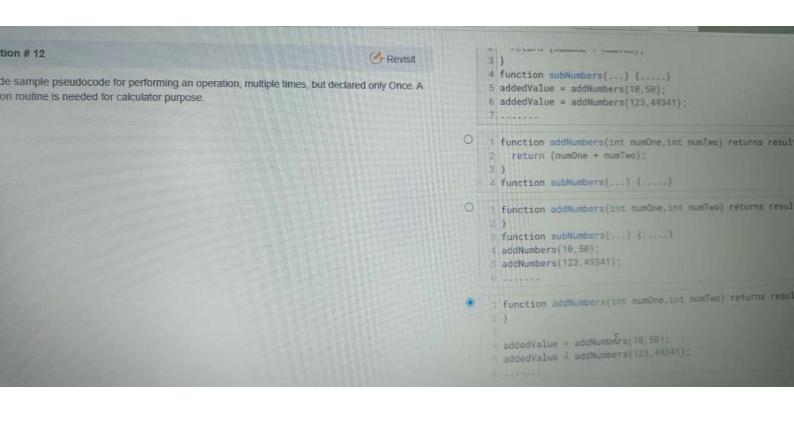
- START
- 2 Integer TotalNum, NumBoys, NumGirls, BoysPercent
- 3 SET BoysPercent=10
- 4 GET NumBoys
- SET TotalNum = (NumBoys*188)/BoysPercent
- SET NumGirls = (TotalNum*(100-BoysPercent-1))/100
- Print 'Total number of pupils: ',TotalNum
- a Print 'Number of girls: ', NumGirls
- STOP

- O Total number of pupils: 115

 Number of girls: 133
- O Total number of pupils: 150 Number of girls: 134
- O Total number of pupils: 125 Number of girls: 137
- Stal number of pupils: 150
 Number of girls: 135

Your requirement is to find out the grades and specific amount of fees that need to be paid according to the grade they earned. It can be called anywhere multiple times. How will you do?

```
1 Implemented below set of pseudocode
    2 in a routine(function).
    3 Start
    4 def calculateGradeAndFees(int marks)
    5 if marks >= 90 then
    6 grade = 'A';
7 fees = 10000;
    8 //similarly many def statements for other
    9 //set of conditions
   18 call calculateGradeAndFees(94);
   11 Stop
    1 Implemented below set of pseudocode
    2 in a routine(function).
    3 Start
    4 def calculateGradeAndFees(int marks)
    5 if marks >= 98 then
    n grade = 'A';
    7 fees = 10000;
    8 else if marks >= 80 and marks <90 then
   te else if .....
   11 call calculateGradeAndFees(94):
   12 Stop
   10 Any modifications are required, it is enough
  is to do in "calculateGradeAndFees" routine only
O | Implemented below set of pseudocode in
   3 main program itself
3 Start
    ( main()
    5 Let marks = 94;
 | If marks >= 90 then
| grade = AT:
| Fees = 10000:
```



```
What will be the size of the Queue affer execution of the following code with N=10?

O 2

While (Starting from i=1 execute N times with increment of 1){

push i to the queue

if (i is multiple of 2){

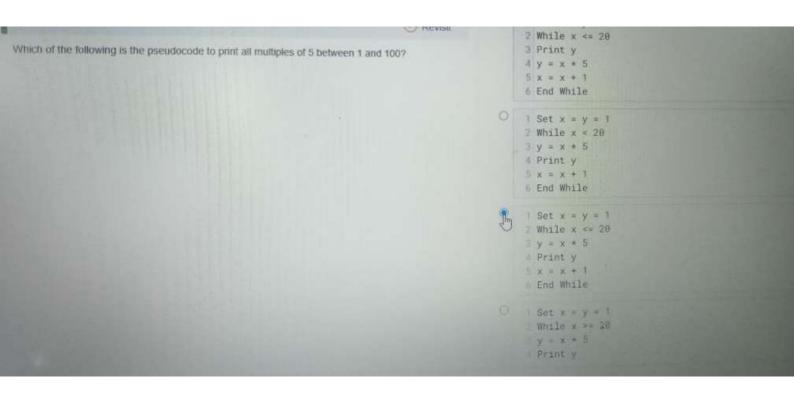
peek it from the queue

}

if (i is multiple of 3){

poll it from the queue
```

```
Your program needs to assign designations to an employee according to their seniority level
                                                                                                                  1 Let the age of employee = 50
and the years of service they did in an organization. How will you implement that?
                                                                                                                 2 Let years of service = 18
                                                                                                                  3 if (age of employee > 48) and years of service
                                                                                                                 4 > 5) (
5 BAND = 'A':
                                                                                                                 6 else if (age of employee > 40) {
7 BAND = 8
                                                                                                                 Let the age of employee = 50
                                                                                                                 2 Let years of service = 10
3 if (age of employee > 40 and years of service
                                                                                                                  Hise of (age of employee > 40 and years of service \Rightarrow 2) (
                                                                                                                  BAND - B
                                                                                                                  Let the age of employee = 58
                                                                                                                 Let years of service = 18
if age of employee > 40) (
                                                                                                                 BAND # A C
                                                                                                                 wile if age of employee > 30 and age of employee < 48) (
                                                                                                                Let the age of employee - 50
Let years of service - 10
Let (years of service > 10) (
BAND -
Lie if (years of service > 5 and years of service as 10) (
```



Which of the following options indicate the correct pseudocode that can be used to find if a given START number is positive or negative using a logical operator? / Integer Num GET Num IF (Num==8) THEN Print The number is neither positive nor negative IF NOT (Num>0) THEN Print The number is a negative number' Print The number is a positive number END IF END IF STOP START GET Num IF (Num>8) THEN Print 'The number is a positive number' Print The number is a negative number END IF STOP

Which of the given options uses a function that creates an array and adds only even numbers to that function addEvenNumbers attev? I create an array evenNumbers and set that equa array check if that number is even if the number is even (if there is no remaind by 2) add that to the array evenNumbers return evenNumbers function addEvenNumbers create an array evenNumbers and set that equa for each number in that array if the number is even (if there is a remainde add to that to the array evenNumbers return evenNumbers function addEvenNumbers dreate an array evenNumbers and set that equal array for each number in that array

Revisit

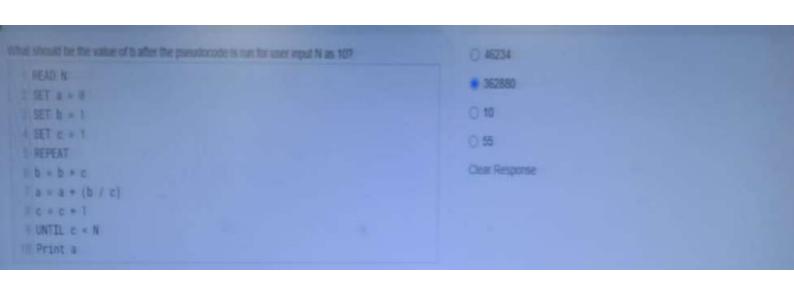
Choose the correct Pseudocode for the given Example program that displays Fibonacci series numbers upto 50.

```
int main()
2 (
3 int a, f, x1, x2, fib;
4 if ( a < 2 ) return a;
5 else (
6 x1 = x2 = 1;
7 for(f=2;f<a;f++)
8 {
9 fib = x1 + x2;
10 x2 = x1;
11 x1 = fib;
13 }
15 return fib;
14 )</pre>
```

Choose the best option

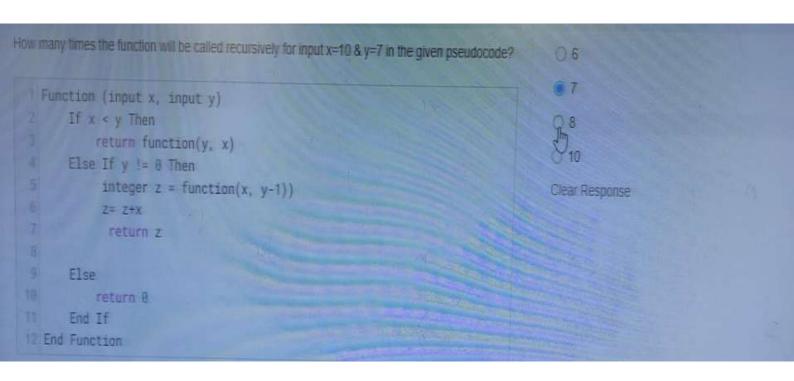
```
1 Declare an integer variable called a
2 Declare an integer variable fib
3 Declare an integer variable x1
4 Declare an integer variable x2
5 set loopcounter to 2
6 values
7 set fib to 8
8 set x1 and x2 to 1
9 set a to 58
10 repeat a times
11 sum = x1 + x2
12 x2 = x1
13 x1 = fib
14 print fib
15 end loop
```

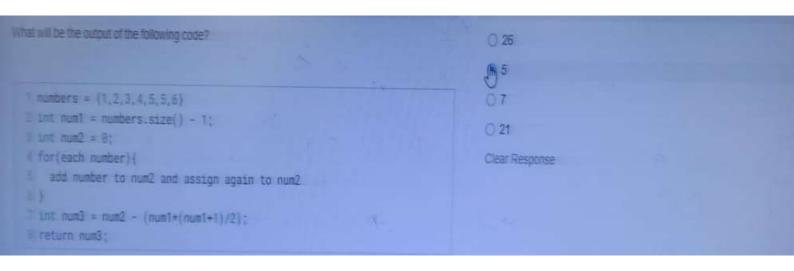
Declare an integer variable called a
Declare an integer variable fib
Declare an integer variable x1
Declare an integer variable x2



Consider a scenario where a program takes the amount of money that a salesperson has earned for the company on a given day and calculates the commission that the salesperson will receive, which is equal to the difference between the amount earned and 90% of the amount earned for the given day and prints the commission amount to be paid to the person. Which of the following pseudocodes correctly implements this program?

```
1 START
    2 Float moneyEarned
    3 GET moneyEarned
    4 SET commission = moneyEarned - (moneyEarned* 98/188)
       Print 'The commission to be paid is ', commission
      STOP
O I START
    2 Float moneyEarned
      GET moneyEarned
      SET commission = moneyEarned* (18/188)
      Print The commission to be paid is ', commission
      START
Finet moneyEarned, commission
      GET moneyEarned
SET commission = moneyEarned * 10/100
      Print The commission to be paid is ", commission
      STOP
      Float moneyEarned, commission
     GET moneyEarned
SET commission = (moneyEarned - moneyEarned* 98)/180)
       Print The commission to be peld is commission
      STOP
```





Consider a program that calculates the factorial of a given number. The program takes the number as input from the user and uses a recursive function to calculate the factorial. Which of the following options indicate the correct pseudocode to implement the give program?

```
SET Factorial = COMPUTE CalculateFactorial(Num)
   Print The factorial for number , Num, is ,Factorial
    4 STOP
      FUNCTION CalculateFactorial(Integer Num) RETURNS Integer
     IF (Num 2) THEN
     RETURN 1
     ELSE
      RETURN Num + CALL CalculateFactorial(Num-1)
      END IF
     END FUNCTION
    9 PROGRAM START
   18 Integer Num, Factorial
   1T GET Num
   12 SET Factorial = CALL CalculateFactorial(Num)
  13 Print 'The factorial for number ', Num,' is ', Factorial
  14 STOP
FUNCTION CalculateFactorial(Num)
  2 IF (Nums=1) THEN
   S RETURN 1
   4 ELSE
   5 RETURN Num * CALL CalculateFactorial(Num-1)
```

```
A program prints the multiplication tables from 1 to 10. The multiplication tables are to be printed
                                                                                    FUNCTION MulTable
using a function. Which of the following pseudocodes will implement this functionality?
                                                                                         2 FOR Num=1 TO 18 DO
                                                                                         3 Print Multiplication Table for , Num
                                                                                         4 FOR I=1 TO 12 DO
                                                                                         S Print Num. '+', I, '=', (Num*I)
                                                                                         6 END FOR
                                                                                         END FOR
                                                                                         8 END FUNCTION
                                                                                        19 PROGRAM START
                                                                                          Print This program prints multiplication tables from
                                                                                           CALL MulTable T
                                                                                           STOP
                                                                                           FUNCTION MulTable
                                                                                           FOR Num=1 TO 18 STEP 1 DO
                                                                                          Print Multiplication Table for Num
                                                                                           FOR 141 TO 12 DO
                                                                                           Print Num. + .1, = (Num*Z)
                                                                                           END FOR
```

END FUNCTION

Provide sample pseudocode for performing an operation, multiple times, but declared only Once A

If function addNumbers(int numbne, int numbne, int numbne) returns

return (numbne + numbne);

function subNumbers(...) {....}

addedValue = addNumbers(123,49341);

function addNumbers(int numbne, int numbne) returns

return (numbne + numbne);

function addNumbers(int numbne, int numbne) returns

function subNumbers(...) {....}

function addNumbers(int numbne, int numbne, int numbne) returns

function subNumbers(...) {....}

function subNumbers(int numbne, int numbne, int numbne, int numbne);

addNumbers(19,59);

addNumbers(19,59);

addNumbers(123,49341);

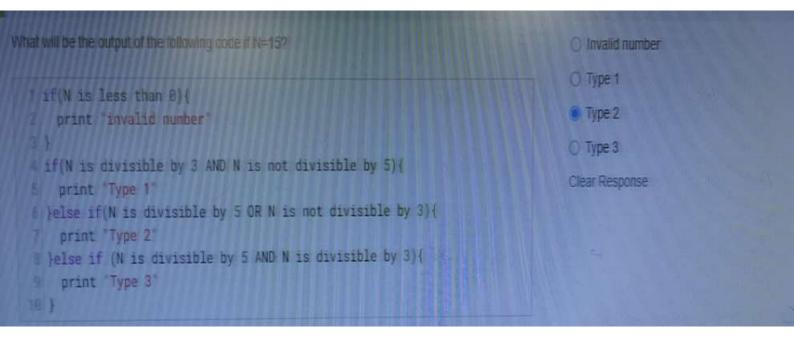
With a single routine can you able to generate a multiplication table structure for any given number?

Few lines of code will be helpful to identify your thought.

```
O 1 main(
     2 int number, int endIndex) (
      3 for (int i = 1; i <= endIndex; i+)</pre>
      # print(number * i = (number * i));
         The output is displayed as
      5 2 + 8 = 8
      7 2 + 1 = 2
         2 * 29 = 48
      | | def | generateMultiplicationTable(
      2 int number, int endIndex) (_
     3 for (int i = 0; i ← endIndex; i++) {
      # print(number * i = (number * i));
     6 call generateMultiplicationTable(2,20)
      7. Output is displayed as
      8 2 * 0 = 0
     7 2 = 1 = 2
     11 2 + 28 = 48
```

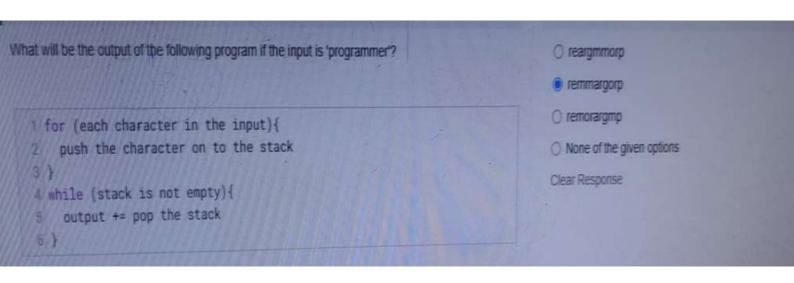
```
What will be the output of the following code if n=4?

1 FUNCTION doMath(integer n)
2 BEGIN IF n <= 1
3 return n
4 ELSE
5 return n * doMath(n-1);
```



Consider the following pseudocode: What will be the output of this pseudocode if it is executed? FUNCTION PayEmp(Integer workHrs, Integer sales) RETURNS Integer Integer Pay, PayPerHr, SalesPay SET PayPerHr = 5 IF sales 18888 THEN SET SalesPay = 158 ELSE IF sales<50000 THEN SET SalesPay = 758 SET SalesPay + ((150+100)/10000)+0.5)*sales/100 SET Pay = PayPerHr + workHrs + SalesPay 2 RETURN Pay TO END FUNCTION PROGRAM START Integer Pay SET Pay = CALL PayEmp(28,68898) Print You have to pay: Rs. ,Pay STOP

- O You have to pay: Rs. 4600
- O You have to pay: Rs.6100
- () You have to pay: Rs. 1000
- 9 You have to pay: Rs. 1300



Your requirement is to prepare a palindrome kind of strings. i.e. your string if reads both in front to back and back to the front should pronounce the same. E.g., AMMA, Write a pseudocode for that

Given string is a palindrome.

```
1 String str = 'MALAYALAM'
2 String revStr = "";
3 //As from last the character is taken
4 for (int i = str.length();i > 0; i--) {
5 revStr += str[i];
6 }
7 if (str.equals(revStr))
8 print 'Given string is palindrome';
9 else
10 print 'Given string is not a palindrome';
Output:
```

The given string is a palindrome.