RAJALAKSHMI ENGINEERING COLLEGE

RAJALAKSHMI NAGAR, THANDALAM – 602 105

RAJALAKSHMI
ENGINEERING COLLEGE

CS23331

Design and Analysis Algorithm

Laboratory Observation Note Book

Started on	Friday, 9 August 2024, 1:37 PM
State	Finished
Completed on	Friday, 9 August 2024, 1:50 PM
Time taken	12 mins 44 secs
Marks	1.00/1.00
Grade	**10.00** out of 10.00 (**100**%)

Question **1**

Correct

Mark 1.00 out of 1.00

```
Convert the following algorithm into a program and find its time complexity using the counter method.
void function (int n)
{
    int i= 1;
```

```
    int s =1;
```

```
    while(s <= n)
    {
         i++;
         s += i;
     }
}
Note: No need of counter increment for declarations and scanf() and  count variable printf() statements.

Input:
 A positive Integer n
Output:
Print the value of the counter variable
```

For example:

Input	Result
9	12

Answer: (penalty regime: 0 %)

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Falling back to raw text area.

```
#include <stdio.h>
int main()
{
    int n;
    int count=0;
    int i=1;
    count++;
    int s=1;
    scanf("%d",&n);
    count++;
    while (s<=n)
    {
        count++;
        i++;
        count++;
        s+=i;
        count++;
```

	Input	Expected	Got	
✔	9	12	12	✔
✔	4	9	9	✔

Passed all tests! ✔

Correct

Marks for this submission: 1.00/1.00.

◄ Model exam DAA (B,D,E)

Jump to...

Problem 2: Finding Complexity using Counter method ►

Started on	Friday, 9 August 2024, 1:51 PM
State	Finished
Completed on	Friday, 9 August 2024, 2:15 PM
Time taken	24 mins 34 secs
Marks	1.00/1.00
Grade	**10.00** out of 10.00 (**100**%)

Question **1**

Correct

Mark 1.00 out of 1.00

Convert the following algorithm into a program and find its time complexity using the counter method.

```
void func(int n)
{
    if(n==1)
    {
      printf("*");
    }
    else
    {
     for(int i=1; i<=n; i++)
     {
       for(int j=1; j<=n; j++)
       {
          printf("*");
          printf("*");
          break;
       }
     }
   }
 }
```

Note: No need of counter increment for declarations and scanf() and count variable printf() statements.

Input:

A positive Integer n

Output:

Print the value of the counter variable

Answer: (penalty regime: 0 %)

```c
#include <stdio.h>
void func(int n) {
    int count= 0;
    if (n == 1)
    {
        count++;
        printf("*");

    } else {
        count++;
        for (int i = 1; i <= n; i++)

        {
            count++;
            for (int j = 1; j <= n; j++)
            {
                count++;
                //printf("*");
                count++;
                //printf("*");
                count++;
                break;
                count++;
            }
            count++;

        }
        count++;
    }

    printf("%d\n",count);
}

int main() {
    int n;
    scanf("%d", &n);
    func(n);
    return 0;
}
```

	Input	Expected	Got	
✔	2	12	12	✔
✔	1000	5002	5002	✔
✔	143	717	717	✔

Passed all tests! ✔

Correct

Marks for this submission: 1.00/1.00.

◄ Problem 1: Finding Complexity using Counter Method

Jump to...

Problem 3: Finding Complexity using Counter Method ►

Started on	Friday, 9 August 2024, 2:15 PM
State	Finished
Completed on	Friday, 9 August 2024, 2:26 PM
Time taken	11 mins 3 secs
Marks	1.00/1.00
Grade	**10.00** out of 10.00 (**100**%)

Question **1**

Correct

Mark 1.00 out of 1.00

Convert the following algorithm into a program and find its time complexity using counter method.

```
Factor(num) {
{
   for (i = 1; i <= num;++i)
   {
    if (num % i== 0)
       {
         printf("%d ", i);
       }
    }
 }
```

Note: No need of counter increment for declarations and scanf() and counter variable printf() statement.

Input:
A positive Integer n
Output:
Print the value of the counter variable

Answer:

```c
#include <stdio.h>
int Factor(int num) {
    int i;
    int count=0;
    for (i = 1; i <= num;++i)
    {
        count++;
    if (num % i== 0)
        {
            count++;
            //printf("%d ", i);
            count++;
        }
        else
        count++;
     }
    count++;
    return count;
}
int main()
{
    int n;
    scanf("%d",&n);
    int m=Factor(n);
    printf("%d",m);
}
```

	Input	Expected	Got	
✔	12	31	31	✔
✔	25	54	54	✔
✔	4	12	12	✔

Passed all tests! ✔

Correct

Marks for this submission: 1.00/1.00.

◄ Problem 2: Finding Complexity using Counter method

Jump to...

Problem 4: Finding Complexity using Counter Method ►

Started on	Friday, 9 August 2024, 2:27 PM
State	Finished
Completed on	Friday, 9 August 2024, 2:37 PM
Time taken	10 mins 10 secs
Marks	1.00/1.00
Grade	**10.00** out of 10.00 (**100**%)

Question **1**

Correct

Mark 1.00 out of 1.00

Convert the following algorithm into a program and find its time

complexity using counter method.

```
void function(int n)
{
    int c= 0;
    for(int i=n/2; i<n; i++)
        for(int j=1; j<n; j = 2 * j)
            for(int k=1; k<n; k = k * 2)
                c++;
}
```

Note: No need of counter increment for declarations and scanf() and count variable printf() statements.

Input:
A positive Integer n
Output:
Print the value of the counter variable

Answer:

```
#include<stdio.h>
int function(int n)
{
    int a=0;
    int c=0;

    for(int i=n/2; i<n; i++)
    {
        a++;
        for(int j=1; j<n; j = 2 * j)
        {
            a++;
            for(int k=1; k<n; k = k * 2)
            {
                a++;
                c++;
                a++;
            }
            a++;
        }
        a++;
    }
    a++;
    return a+1;
}

int main()
{
    int n;
    scanf("%d",&n);
    int ans=function(n);
    printf("%d",ans);
}
```

	Input	Expected	Got	
✔	4	30	30	✔
✔	10	212	212	✔

Passed all tests! ✔

Correct

Marks for this submission: 1.00/1.00.

◄ Problem 3: Finding Complexity using Counter Method

Jump to...

Problem 5: Finding Complexity using counter method ►

Started on	Friday, 9 August 2024, 2:37 PM
State	Finished
Completed on	Friday, 9 August 2024, 2:41 PM
Time taken	4 mins 2 secs
Marks	1.00/1.00
Grade	**10.00** out of 10.00 (**100**%)

Question **1**

Correct

Mark 1.00 out of 1.00

Convert the following algorithm into a program and find its time complexity using counter method.

```
void reverse(int n)
{
   int rev = 0, remainder;
   while (n != 0)
    {
        remainder = n % 10;
        rev = rev * 10 + remainder;
        n/= 10;

    }
print(rev);
}
```

Note: No need of counter increment for declarations and scanf() and count variable printf() statements.

Input:
A positive Integer n
Output:
Print the value of the counter variable

Answer:

```
#include<stdio.h>
int reverse(int n)
{
    int c=0;
   int rev = 0, remainder;
   c+=2;
   while (n != 0)
    {
        c++;
        remainder = n % 10;
        c++;
        rev = rev * 10 + remainder;
        c++;
        n/= 10;
        c++;

    }
    c++;
    return c;

}
int main()
{
    int n;
    scanf("%d",&n);
    int rev=reverse(n);
    printf("%d",rev);
}
```

	Input	Expected	Got	
✔	12	11	11	✔
✔	1234	19	19	✔

Passed all tests! ✔

Correct

Marks for this submission: 1.00/1.00.

◄ Problem 4: Finding Complexity using Counter Method

Jump to...

1-G-Coin Problem ►