Bismillahhir Rahmanir Rahim

International Islamic University Chittagong

Assignment

Course Title-Computer Programming 1 lab

Course Code: CSE- 1121

Assignment No. – 09

(Official & for FINAL TERM)

Submission date- 18.10.2020

Submited to-

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Submitted by-

MD. SOROWAR MAHABUB RABBY

Matric ID: C201032, Section: A
Department of CSE (Computer Science and Engineering)

By sorowarmahabub1709vip, contest: Sheet #7 (Recursion), problem: (A) Print Recursion, **Accepted**,

```c
#include<stdio.h>

void printname(int n)
{
    if(n==0)
        return;
    printf("I love Recursion\n");
    //return
    printname(n-1);
}
int main()
{
    int n;
    scanf("%d", &n);

    printname(n);
    return 0;
}

//          Author: Sorowar Mahabub,
//          studies B.Sc in CSE, IIUC
```

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```c
//              Bismillahhir Rahnanir Rahim

#include<stdio.h>

void numPrint(int n)
{
    if(n<=0)
        return;

  /* if(n==1)
        printf("%d", n);
    else        */
    numPrint(n-1);
    printf("%d\n", n);



}

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



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```

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```c
//              Bismillahhir Rahnanir Rahim

#include<stdio.h>

void numPrint(int n)
{
    if(n<=0)
        return;

    if(n==1)
        printf("%d", n);
    else
        printf("%d ", n);
    numPrint(n-1);

}

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



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```

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```c
// D:

#include<stdio.h>

void printdigit(int n)
{
    int r;
    if(n==0)
        return;

    r= n%10;
    printdigit(n/10);
    printf("%d ", r);
}

int main()
{
    int tc;
    scanf("%d", &tc);
    while(tc--)
    {
        int n;
        scanf("%d", &n);
        if(n==0)
            printf("%d", n);
        else
            printdigit(n);
        printf("\n");
    }
    return 0;
}

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```

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```c
// E:

#include<stdio.h>

void find_bin(int n)
{
    int x;
    if(n==0)
        return;
    x= n%2;
    find_bin(n/2);
    printf("%d", x);
}

int main()
{
    int n,tc;
    scanf("%d", &tc);
    while(tc--)
    {
        scanf("%d", &n);
        if(n==0)
            printf("0");
        else
            find_bin(n);
        printf("\n");
    }
    return 0;
}

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```

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By sorowarmahabub1709vip, contest: Sheet #7 (Recursion), problem: (F) Print Even Indices, **Accepted**,

```c
// F:

#include<stdio.h>

void printingEven(int arr[], int n)
{
    if(n==-1)
        return;
    if(n%2==0)
        printf("%d ", arr[n]);
    printingEven(arr, n-1);
}

int main()
{
    int n;
    scanf("%d", &n);
    int arr[n+9];
    for(int i=0; i<n; i++)
        scanf("%d", &arr[i]);

    printingEven(arr, n-1);
    return 0;
}

//          Author: Sorowar Mahabub,
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```

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#	Author	Problem	Lang	Verdict
95593676	Practice: sorowarmahabub1709vip	223339G - 11	GNU C++14	**Accepted**

→ Source

```c
#include<stdio.h>
void print_star(int n)
{
    int k= 0;
    if(n==0)
        return;

    while(k!=2*n-1)
    {
        printf ("*");
        k++;
    }
    print_star(n-n);
}
void print_space(int n)
{
    if(n==0)
        return;

    printf(" ");
    print_space(n-1);
}

void print_the_pat(int n,int m)
{
    if(n==0)
        return;
    print_space(n-1);
    print_star(m-(n-1));
    printf ("\n");
    print_the_pat(n-1,m);
    // Change belows 3 line to above of-> print_the_pat(n-1,m);
// changed

}

int main()
{
    int n;
    scanf("%d", &n);

    print_the_pat(n,n);
    return 0;
}

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```

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#	Author	Problem	Lang	Verdict
95592938	Practice: sorowarmahabub1709vip	223339H - 10	GNU C++14	Accepted

→ **Source**

```c
#include<stdio.h>
void print_star(int n)
{
    int k= 0;
    if(n==0)
        return;

    while(k!=2*n-1)
    {
        printf ("*");
        k++;
    }
    print_star(n-n);
}
void print_space(int n)
{
    if(n==0)
        return;

    printf(" ");
    print_space(n-1);
}

void print_the_pat(int n,int m)
{
    if(n==0)
        return;

    print_the_pat(n-1,m);
    // Change belows 3 line to above of-> print_the_pat(n-1,m);
    print_space(n-1);
    print_star(m-(n-1));
    printf ("\n");
}

int main()
{
    int n;
    scanf("%d", &n);

    print_the_pat(n,n);
    return 0;
}

//          Author: Sorowar Mahabub,
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```

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By sorowarmahabub1709vip, contest: Sheet #7 (Recursion), problem: (I) Count Vowels, **Accepted**, #, C

```c
#include <stdio.h>
#include <ctype.h>
#include <string.h>

int vowels(char *str, int count) {
    if (!*str)
        return count;

    char ch = tolower(*str);
    int match = ch=='e' || ch=='a' || ch=='i' || ch=='o' || ch=='u';
    int ret= vowels(++str, count + match);
    return ret;
}


int main (void) {
    int i, tc, total_v;
    char str[1000001];

    gets(str);
    //  for(i=0;i<tc;i++){
    //  scanf("%31s",str);

    total_v=vowels(str, 0);
    printf("%d\n", total_v);
    // }

    return 0;
}


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```

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By sorowarmahabub1709vip, contest: Sheet #7 (Recursion), problem: (J) Factorial, **Accepted**,

```c
#include<stdio.h>

long long int factors(int n)
{
    if (n>=1)
        return n*factors(n-1);
    else
        return 1;
}

int main()
{
    int n;
    scanf("%d", &n);

    printf("%lld\n", factors(n));
    return 0;
}

//          Author: Sorowar Mahabub,
//          studies B.Sc in CSE, IIUC
```

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