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CE107

LAB-4

1.

```
#include <stdio.h>

int main() {
  int n,count=0;
  scanf("%d",&n);
   int current_no=n;
  while(count<5){
     if(current_no%2 == 0){

        printf("%d ",current_no);
        count++;
        }
     current_no++;
     }

   /* Enter your code here. Read input from STDIN. Print output to STDOUT */
   return 0;
}
```

2.

```
#include <stdio.h>
```

```
int main() {
  int n,count=0;
  scanf("%d",&n);
   int current_no=n;
  while(count<5){
     if(current_no%2 == 0){

        printf("%d ",current_no);
        count++;
        }
     current_no++;
     }

   /* Enter your code here. Read input from STDIN. Print output to STDOUT */
   return 0;
}
```

3.

```
#include <stdio.h>

int main() {
  int n,i,j,num=0;
  scanf("%d",&n);
  for(i=0;i<n;i++){
     for(j=0;j<i;j++){
```

```
        printf(" ");
        }
      for(j=0;j<n-i;j++){
        printf("%d",num);
        num++;
        }
      printf("\n");
      }


   /* Enter your code here. Read input from STDIN. Print output to STDOUT */
   return 0;
}
```

4.

```
#include <stdio.h>
#include <string.h>
#include <math.h>
#include <stdlib.h>

int main() {
   int n;
   scanf("%d", &n);
   for (int i = 0; i < n; i++) {
      for (int j = 0; j < n - i; j++) {
         printf("%c ", 'A' + j);
      }
```

```
        for (int j = 0; j < 2 * i - 1; j++) {

            printf("  ");

        }
        for (int j = n - i - 1; j >= 0; j--) {
            if (i == 0 && j == n - i - 1) {
                continue;
            }
            printf("%c ", 'A' + j);
        }
        printf("\n");
    }
    /* Enter your code here. Read input from STDIN. Print output to STDOUT */
    return 0;
}
```

5.

```
#include <stdio.h>

int main() {
    int spaces = 0, tabs = 0, newlines = 0;
    int ch;
    while ((ch = getchar()) != EOF) {
     if (ch == ' '){
        spaces++;
```

```
        } else if (ch == '\t') {

            tabs++;

        } else if (ch == '\n') {

            newlines++;

        }

    }

    printf("%d %d %d\n", spaces, tabs, newlines);

    /* Enter your code here. Read input from STDIN. Print output to STDOUT */
    return 0;
}
```

6.

```
#include <stdio.h>
#include <string.h>
#include <math.h>
#include <stdlib.h>

int main() {
    int year, count = 0;
```

```
    scanf("%d", &year);

    while (count < 15) {

        if ((year % 400 == 0) || (year % 4 == 0 && year % 100 != 0)) {

            printf("%d ", year);

            count++;

        }

        year++;


    printf("\n");

    /* Enter your code here. Read input from STDIN. Print output to STDOUT */
    return 0;
}
```

7.

```
#include <stdio.h>

int main() {
unsigned long long int n, a, c = 1, i = 0;
    int rem;
```

```
scanf("%llu", &n);
if (n == 0)
{
   printf("0\n0\n0");
   return 0;
}
a = n;
while (a != 0)
{
   rem = a % 2;
   c = c * 10 + rem;
   a /= 2;
   i++;
}
for (; i > 0; i--)
{
   printf("%llu", c % 10);
   c /= 10;
}
printf("\n");
a = n;
while (a != 0)
{
   rem = a % 8;
   c = c * 10 + rem;
   a /= 8;
   i++;
}
```

```
    for (; i > 0; i--)
    {
        printf("%llu", c % 10);
        c /= 10;
    }
    printf("\n");
    a = n;
    c = 1;
    while (a != 0)
    {
        rem = a % 16;
        c = c * 100 + rem;
        a /= 16;
        i++;
    }
    for (; i > 0; i--)
    {
        if ((c % 100) < 10)
            printf("%llu", c % 100);
        else
            printf("%c", (int)(55 + (c % 100)));
        c /= 100;
        }
    /* Enter your code here. Read input from STDIN. Print output to STDOUT */
    return 0;
}
```

8.

```
#include <stdio.h>
#include <string.h>
#include <math.h>
#include <stdlib.h>

int main() {
 int no1, no2, op;
   scanf("%d %d %d", &no1, &no2, &op);
    while (1) {
      if (op == 1) {
         printf("%d\n", no1 + no2);
         break;
      }
      else if (op == 2) {
         printf("%d\n", no1 - no2);
         break;
      }
      else if (op == 3) {
         printf("%d\n", no1 * no2);
         break;
      }
      else if (op == 4) {
         if (no2 != 0) {
            printf("%f\n", (float)no1 / no2);
         } else {
            printf("Division by zero is not allowed.\n");
         }
```

```
            break;
        }
        else {
            printf("Invalid operation.\n");
            break;
        }
    }

    /* Enter your code here. Read input from STDIN. Print output to STDOUT */
    return 0;
}
```

9.

```
#include <stdio.h>
#include <string.h>
#include <math.h>
#include <stdlib.h>

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

    if (n == 0) {
        printf("0\n");
        return 0;
    }
```

```
    else if (n == 1) {
        printf("1\n");
        return 0;
    }

    unsigned long long a = 0, b = 1, fib;

    for (int i = 2; i <= n; i++) {
        fib = a + b;
        a = b;
        b = fib;
    }
    printf("%llu\n", b);

    /* Enter your code here. Read input from STDIN. Print output to STDOUT */
    return 0;
}
```

10.

```
#include <stdio.h>
#include <string.h>
#include <math.h>
#include <stdlib.h>

int main() {
   int n,sum=0,i,num;
    float average;
```

```
   scanf("%d",&n);
   for(i=0;i<n;i++){
      scanf("%d",&num);
  sum+=num;
      }
   average=(float)sum/n;
  printf("%d\n",sum);
  printf("%.2f\n",average);



   /* Enter your code here. Read input from STDIN. Print output to STDOUT */
   return 0;
}
```

11.

```
#include <stdio.h>
#include <string.h>
#include <math.h>
#include <stdlib.h>

int main() {
int num;
   int evenCount = 0, oddCount = 0;

   while (1) {
     scanf("%d", &num);
       if (num > 20 && num % 2 != 0) {
```

```
            oddCount++;
            break;
        }

        if (num % 2 == 0) {
            evenCount++;
        } else {
            oddCount++;
        }
    }
    printf("Even:%d Odd:%d\n", evenCount, oddCount);


    /* Enter your code here. Read input from STDIN. Print output to STDOUT */
    return 0;
}
```

12.

```
#include <stdio.h>
#include <string.h>
#include <math.h>
#include <stdlib.h>

int main() {
    int number, originalNumber, remainder, result = 0, n = 0;
```

```
    scanf("%d",&number);
    originalNumber = number;
    while(originalNumber != 0)
    {
        originalNumber/=10;
        n++;
    }
    originalNumber = number;
    while(originalNumber != 0)
    {
        remainder = originalNumber%10;
        result += pow(remainder,n);
        originalNumber/=10;
    }
    (result == number) ? printf("1") : printf("0");



    /* Enter your code here. Read input from STDIN. Print output to STDOUT */
    return 0;
}
```