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Q1. Find the sum of an array?

Sample Input :-   10

                        12 15 30 25 60 14 25 81 9 45

Sample output :- Sum=316

Solution :-

```c
#include<stdio.h>
 int main()
{
  int n;//Size...
  int i;
  printf("Enter the size of the array:");
  scanf("%d",&n);
  //Declare an array of size n..
  int a[n];
  //Enter the elements of the array..
  printf("Enter the elements of the array:");
  for(i=0;i<n;i++)
    scanf("%d",&a[i]);
  //Declare a variable for the sum..
  int sum=0;
  for(i=0;i<n;i++)
    sum+=a[i];
  printf("Sum=%d\n",sum);
  return 0;
```

}

Q2. We will provide a string without any length and you have to do string reverse of the given string?

Sample input : hello c language

Sample output : egaugnal c olleh

Solution:

```c
#include<stdio.h>
int main()
{
    char c;//Temporary char..
    int index=0;//Index of a..
    char a[20];//Char array...
    printf("Enter your string:");
    while(1)//Loop Continuously..
    {
        scanf("%c",&c);//Take the char..
        if(c=='\0' || c=='\n')//If delimiter then break
            break;
        a[index++]=c;//Else add to the array..
    }
    int i;
    for(int i=index-1;i>=0;i--)//From Index-1 to 0..
    {
        printf("%c",a[i]);
    }

    return 0;
}
```

Q3. Do addition of given matrix?

Sample input : 3 0 1   2 0 7   5 0 8   3 1 7   10 2 14

              2 1 8   + 1 8 4   - 3 7 12 + 1 0 1 - 2 4 2

              1 0 9   2 10 16   1 15 20   1 6 8   6 18 26

Sample output :   -5 -1 -7

                  -1 -2 -1

                  -3 -9 -13

Q4. Print even index one side and followed odd index value?

Sample input: HACKER

Sample output: HCEAKR

Solution:

#include<stdio.h>

int main()

{

   char c;//Temporary char..

   int index=0;//Index of a..

   char a[20];//Char array...

   printf("Enter your string:");

   while(1)//Loop Continuously..

   {

     scanf("%c",&c);//Take the char..

     if(c=='\0' || c=='\n')//If delimiter then break

        break;

     a[index++]=c;//Else add to the array..

   }

```c
    char earray[20];//Array of chars in even positions...

    char oarray[20];//Array of chars in odd positions..

    int epos=0;//Index of earray..

    int opos=0;//Index of orray...


    int i;


    for(i=0;i<index;i++)

    {

       if(i%2==0)//Even..

          earray[epos++]=a[i];

       else//Odd..

          oarray[opos++]=a[i];

    }

    //Printing the odd and even arrays.....

    for(i=0;i<epos;i++)

    {

       printf("%c",earray[i]);

    }

    printf("\n");


    for(i=0;i<opos;i++)

    {

       printf("%c",oarray[i]);

    }

}
```

Q5. Print the pattern?

Sample output:

```
        *
      ***
     *****
    *******
   *********
```

Solution:

```c
#include <stdio.h>
#include <conio.h>
void main()
{
    int i, j, k, space=10;
    /*to print the pyramid in center, you can also increase the # of spaces*/
    for (i=0;i<=5;i++)
    {
        for (k=0;k<space;k++)
        {
        printf(" ");
        }
        for (j=0;j<2*i-1;j++)
        {
        printf("*");
        }


        space--;
        printf("\n");
    }
    getch();
}
```

Q6. Write program to Display Prime Numbers Between Intervals Using Function?

Sample input : 1230

Sample output: 13 17 19 23 29

Solution:

```c
#include <stdio.h>

int checkPrimeNumber(int n);

int main()
{    int n1, n2, i, flag;

    printf("Enter two positive integers: ");

    scanf("%d %d", &n1, &n2);

    printf("Prime numbers between %d and %d are: ", n1, n2);

for(i=n1+1; i<n2; ++i)

    {        // i is a prime number, flag will be equal to 1

        flag = checkPrimeNumber(i);

        if(flag == 1)

            printf("%d ",i);

    }

    return 0;

}// user-defined function to check prime number

int checkPrimeNumber(int n)


{

int j, flag = 1;

    for(j=2; j <= n/2; ++j)

  {

        if (n%j == 0)

 {

            flag =0;

break;

        }

    }
```

```c
    return flag;

}
```

Q7. Write a program for Remove all Characters in a String Except Alphabet?

Sample input : p2'r-o@gram84iz./

Sample output: programiz

Solution:

```c
#include<stdio.h>

int main()
{
char line[150];
    int i, j;
    printf("Enter a string: ");
gets(line);
    for(i = 0; line[i] != '\0'; ++i)
    {
        while (!( (line[i] >= 'a' && line[i] <= 'z') || (line[i] >= 'A' &&
line[i] <= 'Z') || line[i] == '\0') )
        {
            for(j = i; line[j] != '\0'; ++j)
            {
                line[j] = line[j+1];
            }
line[j] = '\0';
        }
    }
    printf("Output String: ");
puts(line);
    return 0;
}
```

Q8.write a program to Display its own Source Code as Output?

Output: The source code of program

Solution:

```c
#include <stdio.h>
int main()
 {
    FILE *fp;
char c;
fp = fopen(__FILE__,"r");
do
{
        c = getc(fp);
        putchar(c);
    }    while(c != EOF);
    fclose(fp);
    return 0;
}
```

Q9. Write a program to print hello world without using main() function ?

Solution:

```c
#include<stdio.h>
#define fun main
int fun(void)
{
   printf("hello world");
   return 0;
}
```

Q10. Write a program to Access Elements of an Array Using Pointer ?

Sample input: 12354

Sample output: 12354

Solution:

```c
#include <stdio.h>

int main()
{
    int data[5], i;
printf("Enter elements: ");
    for(i = 0; i < 5; ++i)
      scanf("%d", data + i);
    printf("You entered: \n");
for(i = 0; i < 5; ++i)
        printf("%d\n", *(data + i));
    return 0;
}
```