1] Write a C program to find out the size of variables of different data types (use sizeof() operator) and display their size as output.

```c
#include<stdio.h>
int main(){

    printf("The Size of int datatype is %d. \n", sizeof(int));

    printf("The Size of float datatype is %d. \n", sizeof(float));

    printf("The Size of double datatype is %d. \n", sizeof(double));

    printf("The Size of char datatype is %d. \n", sizeof(char));

    return 0;
}
~
~
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~
~
~
-- INSERT --                                                                1,1              All
```

Code:

Output:

```
anonymous17@Turing:~/Desktop/Myfolder/dsa$ gcc q1.c
anonymous17@Turing:~/Desktop/Myfolder/dsa$ ./a.out
The Size of int datatype is 4.
The Size of float datatype is 4.
The Size of double datatype is 8.
The Size of char datatype is 1.
anonymous17@Turing:~/Desktop/Myfolder/dsa$
```

2] Write a C program to find largest number among 3 numbers using ternary operator (conditional operator i.e. ?:)

Code:

```
#include<stdio.h>

int main()
{
    int a, b, c, max ;

    printf("!!The number must be seperated by space\n");

    printf("Enter three numbers : ") ;


    scanf("%d %d %d", &a, &b, &c) ;

    max = a>b && a>c ? a:(b>c && b>a)?b:c;

    printf("\nThe biggest number among the three is : %d", max) ;


    return 0;
}
~
~
~
~
~
~
-- INSERT --                                                    14,42        All
```

Output:

```
anonymous17@Turing:~/Desktop/Myfolder/dsa$ vim q2.c
anonymous17@Turing:~/Desktop/Myfolder/dsa$ gcc q2.c
anonymous17@Turing:~/Desktop/Myfolder/dsa$ ./a.out
!!The number must be seperated by space
Enter three numbers : -76 0 43

The biggest number among the three is : 43anonymous17@Turing:~/Desktop/Myfolder/dsa$
```

3] Write a C program to check whether an alphabet entered by user is vowel or consonant

a) Using switch statement

```c
#include<stdio.h>

int main(){

    char input;

    printf("Enter the character:");
    scanf("%c", &input);

    //Using switch Statement
    switch (input)
    {
    case 'a':
    case 'A':
    case 'e':
    case 'E':
    case 'i':
    case 'I':
    case 'o':
    case 'U':
        printf("The entered character is a vowel.");
        break;

    default:
        printf("The entered character is a consonant");
        break;
    }

    return 0;
}
```
-- INSERT --   1,18   All

Output:

```
anonymous17@Turing:~/Desktop/Myfolder/dsa$ gcc q3.c
anonymous17@Turing:~/Desktop/Myfolder/dsa$ ./a.out
Enter the character:a
The entered character is a vowel.anonymous17@Turing:~/Desktop/Myfolder/dsa$ ./a.out
Enter the character:B
The entered character is a consonantanonymous17@Turing:~/Desktop/Myfolder/dsa$
```

b) Using if statement

```c
#include<stdio.h>

int main(){

    char i;

    printf("Enter the character:");
    scanf("%c", &i);

    //Using switch Statement
    if(i=='a' || i=='e'  || i=='i' || i=='o' || i=='u' || i=='A' || i=='E' || i== 'E' || i=='O' || i=='U'){
        printf("It's a vowel");
    }else{
        printf("It's a consonant");
    }

    return 0;
}
```

-- INSERT --   11,105   All

Output:

```
anonymous17@Turing:~/Desktop/Myfolder/dsa$ gcc q4.c
anonymous17@Turing:~/Desktop/Myfolder/dsa$ ./a.out
Enter the character:a
It's a vowelanonymous17@Turing:~/Desktop/Myfolder/dsa$ ./a.out
Enter the character:C
It's a consonantanonymous17@Turing:~/Desktop/Myfolder/dsa$
```

4] Write a C program to input basic salary of an employee and calculate DA as per following rules:

 For Basic Salary >= 10000 and <= 20000, 10% of basic salary. For Basic Salary > 20000 and <= 50000, 15% of basic salary. For Basic Salary > 50000 and <= 100000, 20% of basic salary. For Basic Salary > 100000, DA is not given.

Code:

```c
#include<stdio.h>
int main(){
    float salary , DA ;
    printf("Enter Your Salary:");

    scanf("%f", &salary);

    if (100000 < salary)
    {
        printf("DA cannot be given!!");
    }

    else if (50000 < salary && salary <= 100000)
    {
        DA = 0.2 * salary;
        printf("The DA is %f", DA);
    }

    else if (20000 < salary && salary <= 50000)
    {
        DA = 0.15 * salary;
        printf("The DA is %f", DA);
    }

    else if(10000 <= salary && salary <= 20000 ){
        DA  = 0.1 * salary;
        printf("The DA is %f", DA);
    }

    return 0;
}
"q5.c" 31L, 589B                                                9,5            All
```

Output:

```
anonymous17@Turing:~/Desktop/Myfolder/dsa$ gcc q5.c
anonymous17@Turing:~/Desktop/Myfolder/dsa$ ./a.out
Enter Your Salary:50000
The DA is 7500.000000anonymous17@Turing:~/Desktop/Myfolder/dsa$
```

5] Write a C Program to display a day (Monday or Tuesday or Wednesday etc.) when a number (1 or 2 or 3 etc.) of day of a week is entered. Assume that on 1st day of a week is Monday (use switch case).

Code:

```c
#include<stdio.h>
int main(){
    int day;
    printf("Enter a number:");
    scanf("%d" , &day);
    switch (day)
    {
    case 1:
        printf("Monday");
        break;
    case 2:
        printf("Tuesday");
        break;
    case 3:
        printf("Wednesday");
        break;
    case 4:
        printf("Thursday");
        break;
    case 5:
        printf("Friday");
        break;
    case 6:
        printf("Saturday");
        break;
    case 7:
        printf("Sunday");
        break;
    default:
        printf("Enter a number between 1 - 7");
        break;
```

```
-- INSERT --                                                          1,12          Top
```

Output:

```
anonymous17@Turing:~/Desktop/Myfolder/dsa$ gcc q6.c
anonymous17@Turing:~/Desktop/Myfolder/dsa$ ./a.out
Enter a number:5
Fridayanonymous17@Turing:~/Desktop/Myfolder/dsa$
```

6] Write C program to calculate area and circumference of circle using variables and constant.

Code:

```c
#include<stdio.h>

int main(){
    float radius;

    printf("Enter the radius(in m):");
    scanf("%f", &radius);

    printf("The area of the circle: %f meter square.", 3.14*radius*radius);

    return 0;
}
```

```
-- INSERT --                                                              9,59          All
```

Output:

```
anonymous17@Turing:~/Desktop/Myfolder/dsa$ gcc q7.c
anonymous17@Turing:~/Desktop/Myfolder/dsa$ ./a.out
Enter the radius(in m):1
The area of the circle: 3.140000 meter square.anonymous17@Turing:~/Desktop/Myfolder/dsa$
```

7] Write a C program to perform for different unit conversion (Fahrenheit to Celsius).

Code:

```c
#include<stdio.h>

int main(){
    float celsius , fahrenheit;

    printf("Enter the temperature in Fahrenheit:");
    scanf("%f", &fahrenheit);

    celsius = ((fahrenheit-32)*5)/9;

    printf("The temperature in celsius is: %f", celsius);
    return 0;
}
```

Output:

```
anonymous17@Turing:~/Desktop/Myfolder/dsa$ gcc q8.c
anonymous17@Turing:~/Desktop/Myfolder/dsa$ ./a.out
Enter the temperature in Fahrenheit:-40
The temperature in celsius is: -40.000000anonymous17@Turing:~/Desktop/Myfolder/dsa$
```