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Course: C, DSA and C++

Assignment 2 – Basic Assignment

Q.1. WAP to print the value and size of the below variables:

```
aditi@DESKTOP-ANL3TOH: /n
//WAP to take values from users an dprint its size and value

#include<stdio.h>

void main()
{
        int num;
        char chr;
        float rs;
        double crMoney;

        printf("Enter an integer value:\n");
        scanf("%d",&num);
        printf("Enter any character from A-Z or a-z:\n");
        scanf(" %c",&chr);
        printf("Enter any float value:\n");
        scanf("%f",&rs);
        printf("Enter the value for crMoney:\n");
        scanf("%lf",&crMoney);

        printf("The value of num is %d and its size is %ld\n",num,sizeof(int));
        printf("The vale of chr is %c and its size is %ld\n",chr,sizeof(char));
        printf("The value of rs is %f and its size is %ld\n",rs,sizeof(float));
        printf("The value of crMoney is %lf and its size is %ld\n",crMoney,sizeof(double));
}
```

Output:

```
aditi@DESKTOP-ANL3TOH:/mnt/d/Core2Web/0Basics$ vim ques1.c
aditi@DESKTOP-ANL3TOH:/mnt/d/Core2Web/0Basics$ cc ques1.c
aditi@DESKTOP-ANL3TOH:/mnt/d/Core2Web/0Basics$ ./a.out
Enter an integer value:
10
Enter any character from A-Z or a-z:
S
Enter any float value:
55.20
Enter the value for crMoney:
5421543134 80.544543
The value of num is 10 and its size is 4
The vale of chr is S and its size is 1
The value of rs is 55.200001 and its size is 4
The value of crMoney is 5421543134 80.544556 and its size is 8
aditi@DESKTOP-ANL3TOH:/mnt/d/Core2Web/0Basics$
```

Q.2. WAP to print below expressions:

aditi@DESKTOP-ANL3TOH: /n

```c
#include<stdio.h>

void main()
{
        int x=9;
        printf("The original value of x is %d",x);
        int ans = ++x + x++ + ++x;
        printf("After Operation 0:\n");
        printf("x=%d\n",x);
        printf("ans=%d\n\n",ans);

        int ans1=++x + ++x + ++x + ++x;
        printf("After Operation 1:\nx=%d\nans=%d\n\n",x,ans1);

        int ans2= x++ + x++ + ++x + x++ + ++x;
        printf("After Opertaion 2:\nx=%d\nans=%d\n\n",x,ans2);

        int ans3=x++ + x++ + x++ + x++;
        printf("After Operation 3:\nx=%d\nans=%d\n\n",x,ans3);
}
~
~
```

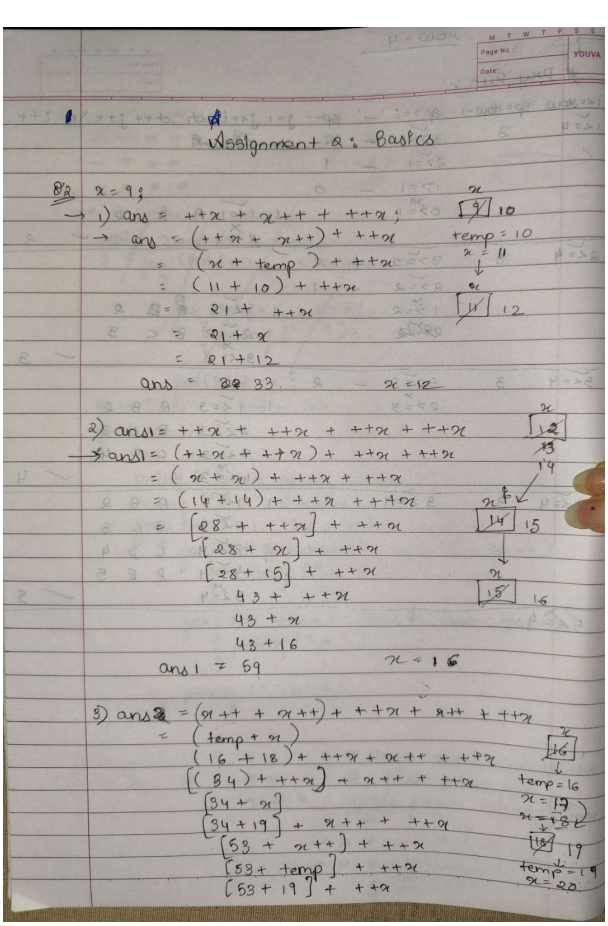
Output:

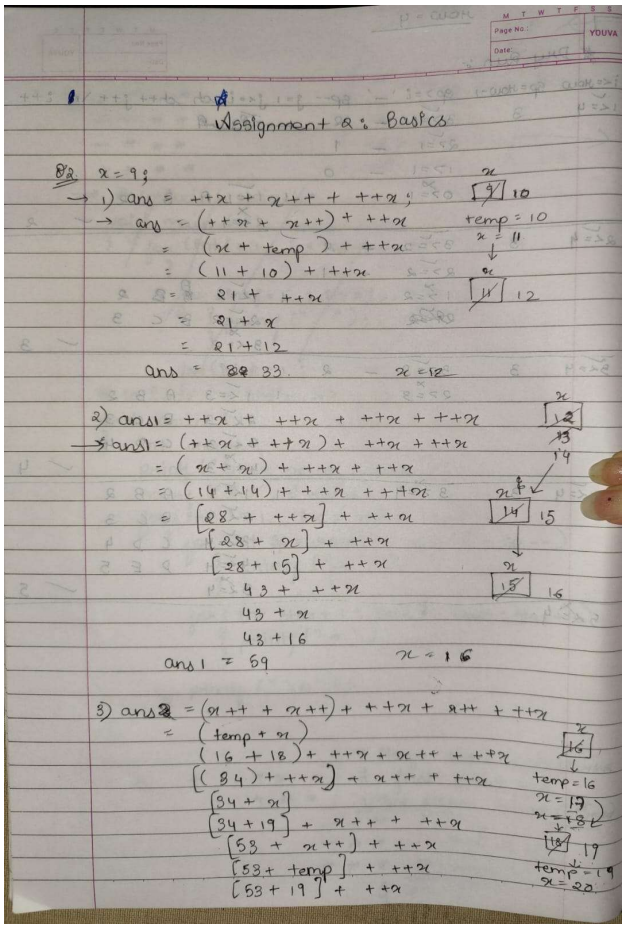
```
aditi@DESKTOP-ANL3TOH:/mnt/d/Core2Web/0Basics$ vim ques2.c
aditi@DESKTOP-ANL3TOH:/mnt/d/Core2Web/0Basics$ cc ques2.c
aditi@DESKTOP-ANL3TOH:/mnt/d/Core2Web/0Basics$ ./a.out
The original value of x is 9After Operation 0:
x=12
ans=33

After Operation 1:
x=16
ans=59

After Opertaion 2:
x=21
ans=92

After Operation 3:
x=25
ans=90
```





Q.3. WAP to find a max no. between two nos.:

```c
//Max of 2 nos.

#include<stdio.h>

void main()
{
        int num1, num2;
        printf("Enter two numbers:\n");
        scanf("%d",&num1);
        scanf("%d",&num2);

        int max;
        if(num1>num2)
        {
                max=num1;
        }
        else
        {
                max=num2;
        }
        printf("The max. no. among the two is %d\n",max);
}
```

Output:

```
aditi@DESKTOP-ANL3TOH:/mnt/d/Core2Web/0Basics$ vim ques3.c
aditi@DESKTOP-ANL3TOH:/mnt/d/Core2Web/0Basics$ cc ques3.c
aditi@DESKTOP-ANL3TOH:/mnt/d/Core2Web/0Basics$ ./a.out
Enter two numbers:
2
4
The max. no. among the two is 4
aditi@DESKTOP-ANL3TOH:/mnt/d/Core2Web/0Basics$
```

Q.4. WAP to find min among 2 nos.:

aditi@DESKTOP-ANL3TOH: /n

```c
//WAP to find min among the two numbers

#include<stdio.h>

void main()
{
        int num1, num2;
        printf("Enter two numbers:\n");
        scanf("%d",&num1);
        scanf("%d",&num2);

        int min;
        if(num1<num2)
        {
                min=num1;
        }
        else
        {
                min=num2;
        }
           printf("The min among the two numbers is %d\n",min);
}
```

Output:

```
aditi@DESKTOP-ANL3TOH:/mnt/d/Core2Web/0Basics$ vim ques4.c
aditi@DESKTOP-ANL3TOH:/mnt/d/Core2Web/0Basics$ cc ques4.c
aditi@DESKTOP-ANL3TOH:/mnt/d/Core2Web/0Basics$ ./a.out
Enter two numbers:
2
4
The min among the two numbers is 2
aditi@DESKTOP-ANL3TOH:/mnt/d/Core2Web/0Basics$
```

Q.5. WAP to find if a no. is divisible by 5 and 11:

```
aditi@DESKTOP-ANL3TOH: /n
//To check whether a num is divisble by 5 and 11

#include<stdio.h>

void main()
{
        int num;
        printf("Enter the Number:\n");
        scanf("%d",&num);
        if(num%5==0 && num%11==0)
        {
                printf("Yes, %d is divisible by 5 and 11.\n",num);
        }
        else
        {
                printf("No, %d is not divisible by 5 and 11.\n",num);
        }
}
~
~
```

Output:

```
aditi@DESKTOP-ANL3TOH:/mnt/d/Core2Web/0Basics$ vim ques5.c
aditi@DESKTOP-ANL3TOH:/mnt/d/Core2Web/0Basics$ cc ques5.c
aditi@DESKTOP-ANL3TOH:/mnt/d/Core2Web/0Basics$ ./a.out
Enter the Number:
55
Yes, 55 is divisible by 5 and 11.
aditi@DESKTOP-ANL3TOH:/mnt/d/Core2Web/0Basics$ ./a.out
Enter the Number:
15
No, 15 is not divisible by 5 and 11.
aditi@DESKTOP-ANL3TOH:/mnt/d/Core2Web/0Basics$
```

Q.6. WAP to check if a number is odd or even:

```
//To check if the given number is odd or even

#include<stdio.h>

void main()
{
        int num;
        printf("Enter a number:\n");
        scanf("%d",&num);

        if(num%2==0)
        {
                printf("%d is even number.\n",num);
        }
        else
        {
                printf("%d is odd number.\n",num);
        }
}
```

Output:

```
aditi@DESKTOP-ANL3TOH:/mnt/d/Core2Web/0Basics$ vim ques6.c
aditi@DESKTOP-ANL3TOH:/mnt/d/Core2Web/0Basics$ cc ques6.c
aditi@DESKTOP-ANL3TOH:/mnt/d/Core2Web/0Basics$ ./a.out
Enter a number:
10
10 is even number.
aditi@DESKTOP-ANL3TOH:/mnt/d/Core2Web/0Basics$ ./a.out
Enter a number:
37
37 is odd number.
```

Q.7. WAP to take a number from user and print whether it is less than 10 or not:

```c
// To detremine of a number is less than 10 or not

#include<stdio.h>

void main()
{
        int num;
        printf("Enter a number:\n");
        scanf("%d",&num);

        if(num<10)
        {
                printf("%d is less then 10.\n",num);
        }
        else
        {
                printf("%d is not less than 10.\n",num);
        }
}
```

Output:

```
aditi@DESKTOP-ANL3TOH:/mnt/d/Core2Web/0Basics$ vim ques6.c
aditi@DESKTOP-ANL3TOH:/mnt/d/Core2Web/0Basics$ vim ques7.c
aditi@DESKTOP-ANL3TOH:/mnt/d/Core2Web/0Basics$ cc ques7.c
aditi@DESKTOP-ANL3TOH:/mnt/d/Core2Web/0Basics$ ./a.out
Enter a number:
5
5 is less then 10.
aditi@DESKTOP-ANL3TOH:/mnt/d/Core2Web/0Basics$ ./a.out
Enter a number:
21
21 is not less than 10.
aditi@DESKTOP-ANL3TOH:/mnt/d/Core2Web/0Basics$
```

Q.8. WAP that determines whether the entered character is uppercase or lowercase:

```
aditi@DESKTOP-ANL3TOH: /n
//To determine if a given character is upper case or lower case

#include<stdio.h>

void main()
{
        char ch;
        printf("Enter a character:\n");
        scanf("%c",&ch);
        if(ch>=65 && ch<=90)
        {
                printf("%c is a Uppercase character\n",ch);
        }
        else
        {
                printf("%c is a lowercase character\n",ch);
        }
}
```

Output:

```
aditi@DESKTOP-ANL3TOH:/mnt/d/Core2Web/0Basics$ vim ques8.c
aditi@DESKTOP-ANL3TOH:/mnt/d/Core2Web/0Basics$ cc ques8.c
aditi@DESKTOP-ANL3TOH:/mnt/d/Core2Web/0Basics$ ./a.out
Enter a character:
H
H is a Uppercase character
aditi@DESKTOP-ANL3TOH:/mnt/d/Core2Web/0Basics$ ./a.out
Enter a character:
v
v is a lowercase character
aditi@DESKTOP-ANL3TOH:/mnt/d/Core2Web/0Basics$
```

Q.9. WAP to determine whether a number is positive or negative:

```
aditi@DESKTOP-ANL3TOH: /n
//Positive or negative number

#include<stdio.h>

void main()
{
        int num;
        printf("Enter a number:\n");
        scanf("%d",&num);
        if(num<0)
        {
                printf("%d is a negative number\n",num);
        }
        else
        {
                printf("%d is a positive number\n",num);
        }
}
```

Output:

```
aditi@DESKTOP-ANL3TOH:/mnt/d/Core2Web/0Basics$ vim ques9.c
aditi@DESKTOP-ANL3TOH:/mnt/d/Core2Web/0Basics$ cc ques9.c
aditi@DESKTOP-ANL3TOH:/mnt/d/Core2Web/0Basics$ ./a.out
Enter a number:
5
5 is a positive number
aditi@DESKTOP-ANL3TOH:/mnt/d/Core2Web/0Basics$ ./a.out
Enter a number:
-3
-3 is a negative number
aditi@DESKTOP-ANL3TOH:/mnt/d/Core2Web/0Basics$
```

Q.10. WAP to print if a character is a vowel or consonant:

aditi@DESKTOP-ANL3TOH: /n

```c
// If a character is vowel or consonant

#include<stdio.h>

void main()
{
        char ch;
        printf("Enter a character:\n");
        scanf("%c",&ch);
        if(ch == 'A' || ch =='E' || ch =='I' || ch == 'O' || ch == 'U' || ch == 'a' || ch == 'e'
                        || ch == 'i' || ch == 'o' || ch=='u')
        {
                printf("%c is a Vowel\n",ch);
        }
        else
        {
                printf("%c is a consonant\n",ch);
        }
}
~
```

Output:

```
aditi@DESKTOP-ANL3TOH:/mnt/d/Core2Web/0Basics$ vim ques10.c
aditi@DESKTOP-ANL3TOH:/mnt/d/Core2Web/0Basics$ cc ques10.c
aditi@DESKTOP-ANL3TOH:/mnt/d/Core2Web/0Basics$ ./a.out
Enter a character:
j
j is a consonant
aditi@DESKTOP-ANL3TOH:/mnt/d/Core2Web/0Basics$ ./a.out
Enter a character:
E
E is a Vowel
aditi@DESKTOP-ANL3TOH:/mnt/d/Core2Web/0Basics$
```