MODULE :3.2

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1.WAP to make simple calculator(operation include Addition,Subtraction,Multiplication,Division,Modulo)

Ans:

```c
#include<stdio.h>

int main()
{
  char oper;
  int num1,num2,ans=0;

    printf("enter any one operator like +,-,*,/,% :");
    scanf("%c",&oper);

    printf("enter the values of operands num1 and num2 :");
```

```c
    scanf("%d %d",&num1,&num2);

switch(oper)
{
    case'+' :ans=num1+num2;
    break;

    case'-' :ans=num1-num2;
        break;

    case'*' :ans=num1*num2;
    break;

    case'/' :ans=num1/num2;
    break;

    case'%' :ans=num1%num2;
        break;
        default :printf("invalid operator ");
}

    printf("The value =%d",ans);
```

```
    return 0;
}
```

Output:

enter any one operator like +,-,*,/, :   +

enter the values of operands num1 and num2 :12

21

The value =33

2.WAP to swap two numbers without using third varible

Ans:

```
#include<stdio.h>

int main()
{
    int a=10,b=20;
    {
        printf("before swap a=%d b=%d",a,b);
    }
```

```c
    a=a+b;//a=30(10+20)

    b=a-b;//b=10(30-20)

    a=a-b;//a=20(30-10)


    printf("\nafter swap a=%d b=%d",a,b);


    return 0;
}
```

Output:

before swap a=10 b=20

after swap a=20 b=10

3.WAP to find number is even or odd using ternary operator

Ans:

```c
#include<stdio.h>

int main()

{

   int num;

        printf("enter the numbr :");
```

```c
        scanf("%d",&num);


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

Output:

Enter the numbr :1

It is odd number

Enter the numbr :2

 It is even number

4 WAP to show Monday to Sunday using switch case

Ans:

```c
#include<stdio.h>
    int main()
    {
        int day;
        printf("\n");
        printf("\n1.Monday");
        printf("\n2.Tuesday");
        printf("\n3.Wednesday");
        printf("\n4.Thursday");
        printf("\n5.Friday");
        printf("\n6.Saturday");
        printf("\n7.Sunday");
        printf("\nEnter a day:");
        scanf("%d",&day);
        switch(day)
        { case 1:
                printf("Monday");
                break;
            case 2:
                printf("Tuesday");
                break;
            case 3:
                printf("Wednesday");
```

```c
            break;
        case 4:
            printf("Thursday");
            break;
        case 5:
            printf("Friday");
            break;
        case 6:
            printf("Saturday");
            break;
        case 7:
            printf("Sunday");
            break;
         default :
           printf("Invalid Input");
           break;
    }
    return 0;
}
```

Output:

1.Monday
2.Tuesday
3.Wednesday
4.Thursday
5.Friday
6.Saturday
7.Sunday
Enter a day:1
Monday

5 WAP to show Vowel Or Consonant using switch case

Ans:

```c
#include <stdio.h>

int main()
{
    char ch;

    /* Input alphabet from user */
    printf("Enter any character: ");
    scanf("%c", &ch);

    /* Switch ch value */
    switch(ch)
    {
        case 'a':
        case 'e':
        case 'i':
        case 'o':
        case 'u':
```

```c
        case 'A':
        case 'E':
        case 'I':
        case 'O':
        case 'U':
            printf("Vowel");
            break;

        default: printf("Consonant");
    }

    return 0;
}
```

Output:

Enter any character: a

Vowel

.Looping programs

- **WAP to Print 972 to 897 using for loop**

#include<stdio.h>

main()

{

    int i,j;

    for(i=972;i>=897;i--)

    {

      printf("\n%d",i);

    }

}

output:

  972   971   970   969   968   967   966   965
964   963   962   961   960   959   958   957

956	955	954	953	952	951	950	949
948	947	946	945	944	943	942	941
940	939	938	937	936	935	934	933
932	931	930	929	928	927	926	925
924	923	922	921	920	919	918	917
916	915	914	913	912	911	910	909
908	907	906	905	904	903	902	901
900	899	898	897				

2.WAP to take 10 no. Input from user and find out…

```c
#include<stdio.h>

int main()

{

  int n,i,counteven=0,countodd=0,sumeven=0,sumodd=0;

  for(i=1;i<=10;i++)

  {

        printf("Enter number %d: ",i);

        scanf("%d",&n);

        if(n%2==0)

        {
```

```c
            counteven++;
            sumeven=sumeven+n;
    }
    else
    {
      countodd++;
      sumodd=sumodd+n;
            }
    }
    printf("Total even numbers is: %d\n",counteven);
    printf("Total odd numbers is: %d\n",countodd);
    printf("Sum of even numbers is: %d\n",sumeven);
    printf("Sum of odd numbers is: %d",sumodd);
    return 0;
}
```

output:

Enter number 1: 12

Enter number 2: 45

Enter number 3: 78

Enter number 4: 3698

Enter number 5: 54

Enter number 6: 78

Enter number 7: 32

Enter number 8: 6

Enter number 9: 3

Enter number 10: 5

Total even numbers is: 7

Total odd numbers is: 3

Sum of even numbers is: 3958

Sum of odd numbers is: 53

• WAP to print table up to given numbers

Ans:

```c
#include<stdio.h>
int main()
{
        int n,i,j;
        printf("Enter a number upto which you want to print table: ");
        scanf("%d",&n);
        for(i=1;i<=n;i++)
        {
```

```c
        for(j=1;j<=10;j++)
        {
            printf("%d*%d = %d\n",i,j,i*j);
        }
        printf("\n");
    }
    return 0;
}
```

Output:

Enter a number upto which you want to print table: 2

1*1 = 1

1*2 = 2

1*3 = 3

1*4 = 4

1*5 = 5

1*6 = 6

1*7 = 7

1*8 = 8

1*9 = 9

1*10 = 10

2*1 = 2

2*2 = 4

2*3 = 6

2*4 = 8

2*5 = 10

2*6 = 12

2*7 = 14

2*8 = 16

2*9 = 18

2*10 = 20

• WAP to print factorial of given number

Ans:

```
#include<stdio.h>
int main()
{
        int n,i,fact=1;
        printf("Enter a number to print factorial: ");
        scanf("%d",&n);
```

```
            for(i=1;i<=n;i++)

            {

              fact*=i;

            }

            printf("Factorial of %d is: %d\n",n,fact);

}
```

Output:

Enter a number to print factorial: 5

Factorial of 5 is: 120

• WAP to print Fibonacci series up to given numbers

Ans:

```
#include<stdio.h>
int main()
{
  int  n,n1=0,n2=1,n3,i;
  printf("Enter Number of fibonacci elements: ");
  scanf("%d",&n);
  printf("%d %d",n1,n2);
  for(i=2;i<n;i++)
  {
        n3=n1+n2;
        n1=n2;
        n2=n3;
```

```
        printf(" %d",n3);
   }
   return 0;
  }
```

Output:
Enter Number of fibonacci elements: 5
0 1 1 2 3

● WAP to print number in reverse order

Ans:
```
#include<stdio.h>
int main()
{
        Int  n,last,reverse=0;
        printf("Enter a number: ");
        scanf("%d",&n);
        while(n!=0)
        {
          last=n%10;
          reverse=reverse*10+last;
          n/=10;
        }
        printf("Reversed Number is %d",reverse);
}
```

Output:

Enter a number: 123456789
Reversed Number is 987654321

•Write a program to find out the max from given number

Ans:

```c
#include<stdio.h>
int main()
{
        int n,max=0;
        printf("Enter Number: ");
        scanf("%d",&n);
        while(n!=0)
        {
          if(n%10>max)
          {
            max=n%10;
          }
          n/=10;
        }
        printf("Lasgest Number = %d",max);
}
```

Output:
Enter Number: 486235
Lasgest Number = 8

- # Write a program make a summation of given number

Ans:
```c
#include<stdio.h>
int main()
{
  int n,sum=0;
  printf("Enter a number: ");
  scanf("%d",&n);
  while(n>0)
  {
        sum+=n%10;
        n/=10;
  }
  printf("Summation of a number is: %d",sum);
  return 0;
}
```

Output:

Enter a number: 123456
Summation of a number is: 21

•Write a program you have to make a summation of first and last Digit.

Ans:

```c
#include<stdio.h>
int main()
{
  int n,first,last,sum=0;
  printf("Enter a number: ");
  scanf("%d",&n);
  last=n%10;
  while(n>10)
  {
        n/=10;
        first=n;
  }
        sum=first+last;
  printf("Summ of a first and last digit  is: %d",sum);
  return 0;
}
```

Output:

Enter a number: 13345

Summ of a first and last digit is: 6

Patterns:1

```c
#include<stdio.h>
main()
{
        int n=5,i,j;
        for(i=1;i<=n;i++)
        {
          for(j=1;j<=i;j++)
          {
                printf("%d",j%2);
          }
          printf("\n");
        }


}
```

Patterns:2

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

```c
{
    int i,j,k=1,n;

    printf("Enter the no of lines\n");
    scanf("%d",&n);

    printf("Floyd's Triangle using
alphabets/characters\n");
    for(i=1;i<=n;i++)
    {
        for(j=1;j<=i;j++,k++)
        {
            printf("%4c",(char)(k+64));   //4 spaces
        }
        printf("\n");
    }
    return 0;
}
```

Output:

```
Enter the no of lines
5
Floyd's Triangle using alphabets/characters
   A
   B   C
   D   E   F
   G   H   I   J
   K   L   M   N   O
```

Patterns:3

```c
#include <stdio.h>
int main() {
    int i, space, rows, k = 0;
    printf("Enter the number of rows: ");
    scanf("%d", &rows);
    for (i = 1; i <= rows; ++i, k = 0) {
        for (space = 1; space <= rows - i; ++space) {
            printf("  ");
        }
        while (k != 2 * i - 1) {
            printf("* ");
            ++k;
        }
        printf("\n");
    }
    return 0;
}
```

Output:
Enter the number of rows: 5
```
        *
      * * *
    * * * * *
  * * * * * * *
* * * * * * * * *
```

Patterns:4

```c
#include <stdio.h>
int main()
{
  int i, j, rows;
  printf("Enter the number of rows: ");
  scanf("%d", &rows);
  for (i = 1; i <= rows; ++i)
   {
    for (j = 1; j <= i; ++j)
      {
       printf("* ");
      }
    printf("\n");
   }
  for (i = rows; i >= 1; --i)
       {
          for (j = 1; j <= i; ++j) {
       printf("* ");
      }
    printf("\n");
```

}

  return 0;

}

Output:

      Enter the number of rows: 5

      *

      * *

      * * *

      * * * *

      * * * * *

      * * * * *

      * * * *

      * * *

      * *

      *

Patterns:5

      #include <stdio.h>

int main() {

  int rows, i, j, number = 1;

  printf("Enter the number of rows: ");

```c
    scanf("%d", &rows);
    for (i = 1; i <= rows; i++) {
        for (j = 1; j <= i; ++j) {
            printf("%d ", number);
            ++number;
        }
        printf("\n");
    }
    return 0;
}
```

Output:

Enter the number of rows: 5

1

2 3

4 5 6

7 8 9 10

11 12 13 14 15

Patterns:6

#include<stdio.h>

```c
main()
{
  int i,j,n;

  printf("Enter the no of lines\n");
  scanf("%d",&n);

  for(i=1;i<=n;i++)
  {
    for(j=1;j<=i;j++)
    {
      printf("%c",(char)(j+64));
    }

    printf("\n");
  }
}
```

Output:

Enter the no of lines

5

A

AB

ABC

ABCD

ABCDE