1. Write an algorithm & flowchart along with program to check whether the number entered by the
user is exactly divisible by 5 or 11.

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


int main(){
int n;
printf("Enter the number: ");
scanf("%d",&n);
if(n%5==0||n%11==0){
    printf("The number is exactly divisible by 5 or 11\n");
}else{
    printf("The number is not exactly divisible by 5 or 11\n");

}


return 0;
}
```

2. Draw a flow chart and write an algorithm to find out whether a given number is zero, +ve or –ve.

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


int main(){
int n;
scanf("%d",&n);
if(n>0){
    printf("Positive\n");
}
else if(n<0){
    printf("Negative\n");
}
else{
    printf("Zero\n");
}

return 0;
}
```

3.
4. Find the value of following expression. Use the value initially assigned to the variables for each
expression.
int a=8, b=5;
float x=0.005, y=-0.01;
i. 2*((a/5)+4*(b-3))%(a+b+2));
ii. (x>y)&&(a>0)11(b<5);
iii. (a>b)?a:b;

5. Write a program (WAP) to read the marks of four subjects then find total, percentage and division
according to given condition.
Percentage Division
p >= 80 Distinction
80 > p >= 70 First Division
80 > p >= 50 Second Division
50 > p >= 40 Third Division
Otherwise Fail
Assume each subjects carrying 100 full marks and students must secure greater or equal to 40 in
each subjects for division.

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


int main(){
float p;
scanf("%f",&p);
if(p>=80){
    printf("Distinction\n");
}
else if(p>=70&&p<80){
    printf("First Division");
}
else if(p>=50&&p<70){
    printf("Second Division");
}
else if(p>=40&&p<50){
    printf("Third Division");
}
else{
    printf("Fail");
}
```

```
return 0;
}
```

6. WAP to display the following outputs.

```
(a)  1          (b)   1
     1 1             0 1
     1 1 1          1 0 1
     1 1 1 1       0 1 0 1
     1 1 1 1 1    1 0 1 0 1
```

(a)

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


int main(){
for(int i=1;i<=5;i++){
    for(int j=1;j<=i;j++){
        printf("1 ");
    }
    printf("\n");
}

return 0;
}
```

(b)

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


int main(){
for(int i=1;i<=5;i++){
    for(int j=5;j>i;j--){
        printf(" ");
    }
    for(int j=1;j<=i;j++){
        if((i+j)%2==0){
            printf("1 ");
        }else{
            printf("0 ");
        }
    }
    printf("\n");
}
```

```
return 0;
}
```

7. WAP to input any 10 numbers then find out greatest and the smallest number.

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


int main(){
int n,max,min;
printf("Enter the 10 numbers\n");
scanf("%d",&n);
max=n;
min=n;
for(int i=1;i<=9;i++){
    scanf("%d",&n);
    if(n>max){
        max=n;
    }
    if(n<min){
        min=n;
    }
}
printf("Max: %d\nMin: %d\n",max,min);

return 0;
}
```

===>>>>>>>>>> or next method

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


int main(){
int a[10];
for(int i=0;i<10;i++){
    scanf("%d",&a[i]);
}
int max=a[0],min=a[0];
for(int i=1;i<10;i++){
    if(a[i]>max){
        max=a[i];
    }
    if(a[i]<min){
```

```
        min=a[i];
    }
}
printf("Greatest element: %d\nLeast Element: %d\n",max,min);

return 0;
}
```

8. Write a program to find the least number between two numbers using ternary operator.

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


int main(){
int a,b;
scanf("%d%d",&a,&b);
int least=(a<b)?a:b;
printf("%d\n",least);

return 0;
}
```

9. WAP to add two 3x3 matrix using function.

```
#include<stdio.h>
#include<string.h>
#include<stdlib.h>
#include<math.h>
void addMatrix(int a[][3],int b[][3]){
    int sum[3][3];
    for(int i=0;i<3;i++){
        for(int j=0;j<3;j++){
            sum[i][j]=a[i][j]+b[i][j];
            printf("%d ",sum[i][j]);
        }
        printf("\n");
    }

}

int main(){
int a[3][3],b[3][3];
printf("Enter the elements of matrix A:\n");
for(int i=0;i<3;i++){
    for(int j=0;j<3;j++){
```

```
        scanf("%d",&a[i][j]);
    }
}

printf("Enter the elements of matrix B:\n");
for(int i=0;i<3;i++){
    for(int j=0;j<3;j++){
        scanf("%d",&b[i][j]);
    }
}
printf("\n");
addMatrix(a,b);

return 0;
}
```

10. Write a program to find the sum of each row of 3*2 matrix.

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


int main(){
int a[3][2];
int sum=0;
for(int i=0;i<3;i++){
    for(int j=0;j<2;j++){
        scanf("%d",&a[i][j]);
    }
}

for(int i=0;i<3;i++){
    for(int j=0;j<2;j++){
        sum+=a[i][j];
    }
    printf("Sum of %dth row: %d\n",i+1,sum);
    sum=0;
}

return 0;
}
```

11. Write a program to check whether the diagonal elements of a (4*4) matrix are all zero.

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

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


int main(){
int a[4][4];
int check=1;
printf("Enter the elements of matrix:\n");
for(int i=0;i<4;i++){
    for(int j=0;j<4;j++){
        scanf("%d",&a[i][j]);
    }
}
for(int i=0;i<4;i++){
    for(int j=0;j<4;j++){
        if(a[i][i]!=0){
            check=0;
            break;
        }
    }
}
if(check==1){
    printf("All the diagonal elements are 0");
}
else{
    printf("All the diagonal elements are not 0");

}

return 0;
}
```

12. Write a program using pointers to read in an array of integers and print its elements in reverse
order.

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


int main(){
    int n;
printf("Enter the size of array:\n");
scanf("%d",&n);
int a[n];
int *ptr=&a[0];
```

```
printf("Enter the elements of array:\n");
for(int i=0;i<n;i++){
    scanf("%d",(ptr+i));
}

for(int i=n-1;i>=0;i--){
    printf("%d ",*(ptr+i));
}

return 0;
}
```

13. WAP to find the sum and average of 10 integer numbers stored in an array.

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


int main(){
int a[10],sum=0;
printf("Enter the elements of array:\n");
for(int i=0;i<10;i++){
    scanf("%d",&a[i]);
    sum+=a[i];
}
printf("Sum of all elements of array is %d\n",sum);
printf("Average is %f\n",sum/10.0);

return 0;
}
```

14. WAP to add two matrices using array.

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


int main(){
int n,m;
printf("Enter the dimensions of matrix:\n");
scanf("%d%d",&n,&m);
int a[n][m],b[n][m];

printf("Enter the elements of first matrix:\n");
for(int i=0;i<n;i++){
```

```
    for(int j=0;j<m;j++){
        scanf("%d",&a[i][j]);
    }
}
printf("Enter the elements of second matrix:\n");
for(int i=0;i<n;i++){
    for(int j=0;j<m;j++){
        scanf("%d",&b[i][j]);
    }
}

int sum[n][m];
for(int i=0;i<n;i++){
    for(int j=0;j<m;j++){
        sum[i][j]=a[i][j]+b[i][j];
        printf("%d ",sum[i][j]);
    }
    printf("\n");
}

return 0;
}
```

15. WAP to find the factorial of given number using recursion.

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

int factorial(int n){
    if(n==0||n==1){
        return n;
    }
    return n*factorial(n-1);
}

int main(){
int n;
printf("Enter the number:\n");
scanf("%d",&n);
printf("The factorial of %d is %d\n",n,factorial(n));

return 0;
}
```

16. WAP to sort ‘n’ numbers in ascending order using dynamic memory.

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

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


int main(){
int n;
printf("How many numbers:\n");
scanf("%d",&n);

int *ptr;
ptr=(int *)malloc(n*sizeof(int));

printf("Enter the elements:\n");
for(int i=0;i<n;i++){
    scanf("%d",&ptr[i]);
}

for(int i=0;i<n-1;i++){
    for(int j=i+1;j<n;j++){
        if(ptr[i]>ptr[j]){
            int temp=ptr[i];
            ptr[i]=ptr[j];
            ptr[j]=temp;
        }
    }
}
for(int i=0;i<n;i++){
    printf("%d ",ptr[i]);
}

return 0;
}
```

17. WAP to read line of text then count no. of vowels, digits and spaces.

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


int main(){
char s[1000];
gets(s);
int vowels=0,consonants=0,spaces=0;

for(int i=0;i<strlen(s);i++){
    if(s[i]>='a'&&s[i]<='z'){
        if(s[i]=='a'||s[i]=='e'||s[i]=='i'||s[i]=='o'||s[i]=='u'){
            vowels++;
```

```
        }
        else{
            consonants++;
        }
    }
    else if(s[i]==' ') {
        spaces++;
    }
    else{

    }
}
printf("Total vowels: %d\nTotal Consonants: %d\nTotal Spaces:
%d\n",vowels,consonants,spaces);


return 0;
}
```

18. WAP to create a file “RECORD.TXT” then store roll no, name and percentage of 10 students.

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


int main(){
FILE *ptr;
ptr=fopen("record.txt","w");
char name[10][50];
int roll[10];
float percentage[10];
printf("Enter the Name, Roll Number and Percentage of 10 students:\n");
for(int i=0;i<10;i++){
    scanf("%s%d%f",name[i],&roll[i],&percentage[i]);
    fprintf(ptr,"Name: %s\nRoll Number: %d\nPercentage:
%.2f\n\n",name[i],roll[i],percentage[i]);
}
fclose(ptr);

return 0;
}
```

19. WAP to read and print data stored in a file “input.txt”.

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

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


int main(){
FILE *ptr;
ptr=fopen("input.txt","r");
char c;
if(ptr==NULL){
    printf("File doesn't exist\n");
}
else{
while(c!=EOF){
    c=getc(ptr);
    putchar(c);
}
}
fclose(ptr);

return 0;
}
```

20. WAP to accept 10 numbers and print the sum of these numbers through function.

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

int sum(int a[]){
    int s=0;
    for(int i=0;i<10;i++){
        s+=a[i];
    }
    return s;
}

int main(){
int a[10];
printf("Enter the 10 numbmers:\n");
for(int i=0;i<10;i++){
    scanf("%d",&a[i]);
}

printf("The sum of entered numbers is %d\n",sum(a));

return 0;
}
```

21. WAP to accept 10 numbers and soft them with using pointer.

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


int main(){
int a[10];
printf("Enter the 10 numbers:\n");
for(int i=0;i<10;i++){
    scanf("%d",&a[i]);
}
int *ptr=&a[0];
for(int i=0;i<9;i++){
    for(int j=i+1;j<10;j++){
        if(*(ptr+i) > *(ptr+j)){
            int temp=*(ptr+i);
            *(ptr+i)=*(ptr+j);
            *(ptr+j)=temp;
        }
    }
}
for(int i=0;i<10;i++){
    printf("%d ",a[i]);
}

return 0;
}
```

22. WAP to read the data file which has following details.
a. Name b. Age c. Test player d. Total run.

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


int main(){
FILE *ptr;
ptr=fopen("file.txt","r");
char name[100];
int age,runs;
scanf("%s%d%d",&name,&age,&runs);
printf("Name of the player: %s\nAge: %d\nTotal Runs: %d\n",name,age,runs);
return 0;
}
```

23. Write a program using switch statement to display EXCELLENT, VERY GOOD, GOOD, SATISFACTORY, or FAIL if the user enters A, B, C, D, E respectively.

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


int main(){
char c;
printf("Enter: ");
scanf("%c",&c);
switch(c){
    case 'A':
    printf("Excellent");
    break;
    case 'B':
    printf("Very Good");
    break;
    case 'C':
    printf("Good");
    break;
    case 'D':
    printf("Satisfactory");
    break;
    case 'E':
    printf("Fail");
    break;
}

return 0;
}
```

24. Write a program to draw a circle using graphics function.

Yo malai aaudaina

Not necessary kahi pani kaam lagdaina.

25. What is the output if the following program?

```
#include<stdio.h>
#include<conio.h>
#include<math.h>
void main()
{
int x=2, n=5, sum=0, i;
clrscr();
for(i=1; i<=n; i++)
```

```
{
if(i%2==0)
sum==sum-pow(x,i);
else
sum=sum+pow(x,1);
}
printf(“sum=%d”,sum);
getch();
}
```
https://prnt.sc/21csyet <== link ma xa ss. sum = 6 print hunxa.

26. Write a program to find sum and average of n numbers entered from the keyboard using dynamic
memory allocation to create array to store these n numbers.

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


int main(){
int n;
printf("How many numbers:\n");
scanf("%d",&n);
int *ptr;
ptr=(int*)malloc(n*sizeof(int));
int sum=0;
float avg;
printf("Enter the numbers:\n");

for(int i=0;i<n;i++){
    scanf("%d",&ptr[i]);
    sum+=ptr[i];
}

printf("The sum of entered 'n ' numbers is %d\nAverage is %f\n",sum,(float)sum/n);


return 0;
}
```

27. Write a program to read all the numbers from the input file “value.dat” and store only even
numbers in an output file named as “result.res”.

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

```
#include<math.h>


int main(){
FILE *file1,*file2;
file1=fopen("value.dat","r");
file2=fopen("result.res","w");
int n;
for(int i=1;i<=10;i++){
    fscanf(file1,"%d",&n);
    if(n%2==0){
        fprintf(file2,"%d ",n);
    }
}

fclose(file1);
fclose(file2);

return 0;
}
```

28. Create a structure having data name, roll no. and percentage. Complete the program to display the
name of student having percentage greater than or equal to 60.

```
#include<stdio.h>
#include<string.h>
#include<stdlib.h>
#include<math.h>
struct students{
    char name[100];
    int roll;
    float percentage;
};

int main(){
int n;
printf("How many students:\n");
scanf("%d",&n);
struct students a[n];
printf("Enter the name, roll number and percentage of students:\n");
for(int i=0;i<n;i++){
    scanf("%s%d%f",&a[i].name,&a[i].roll,&a[i].percentage);
}
printf("The students with percentage >=60 are:\n");
for(int i=0;i<n;i++){
    if(a[i].percentage>=60){
        printf("%s\n",a[i].name);
    }
}
```

```
return 0;
}
```

29. Create a structure rectangle with data members length and breadth.

```
#include<stdio.h>
#include<string.h>
#include<stdlib.h>
#include<math.h>
struct rectangle{
    int length,breadth;
};

int main(){


return 0;
}
```

30. WAP that reads data from file “input.txt” and writes to “output.txt” file.

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


int main(){
FILE *input,*output;
input=fopen("input.txt","r");
output=fopen("output.txt","w");

char ch;
while(ch!=EOF){
    ch=fgetc(input);
    fprintf(output,"%c",ch);
}

return 0;
}
```