1) $a = 1$, $b = 2$ and $c = 3$

expression ⇒ `--a * (5+b)/2 - c++ * b`

Using precedence and associativity it can be solved

a	b	c
1	2	3

① ⇒ `--a * (5 +b)/2 -c++ * b`

⇒ `--1 * (5 +2)/2 - 3++ * 2`

⇒ `0 * (5+2)/2 - 3++ * 2`

⇒ `0 * (5+2)/2 - 4 * 2`

⇒ `0 * (7/2) - 4 * 2`

⇒ `0 - 4 * 2`

⇒ `0 - 8`

① ⇒ `-8`

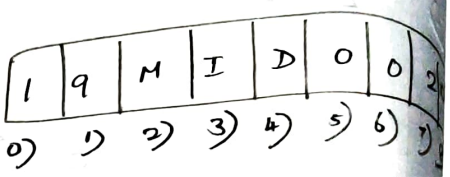
2)

```
z z z z z z z
        z
      z
    z
  z
z z z z z z z
```

```
#include <stdio.h>
#include <conio.h>
int main()
{
  for(int i=0 ; i<7; i++)
    {printf("z");}
  printf("\n");
  for(int i=6 ; i<=1 ; i++)
  {
    for(int j=i ; j>i ; j--)
      {printf("z");
       printf("\n");
      }
  }
  printf("\n");
  for(int i=0; i<7; i++)
    {printf("z")
return 0;
}
```

3)

```
#include <stdio.h>
#include <conio.h>
#include <stdlib.h>
#include <string.h>
int main()
{
    int num1;
    char [8] reg;
    printf ("Enter the number of students
        standing in the queue : ");
    scanf ("%d", &num1);
    char * ptr = (int *) malloc (num1 * (9 * sizeof (char)));
    while (num1 != 0)
    { int i = 0;
      printf ("Enter the registration number");
      scanf ("%s", reg);
      if (reg[2][3][4] == 'MID') or
      (reg[2][3][4] == 'MIC') or
      (reg[2][3][4] == 'MIS')
      if strcpy (reg[2][3][4], "MID") or
        strcpy (reg[2][3][4], "MIC") or
        strcpy (reg[2][3][4], "MIS")
      ptr[i] = reg;
      i++;
    num--;
```



4)

4) $1/1! + 4/2! + 27/3!$

$$1 + \frac{4}{2!} + \frac{27}{3!} + \frac{64}{4!}$$

$$1 + \frac{4}{2} + \frac{27}{6}$$

$3^3 \Rightarrow 27$

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

int fun1 (int n)
{
   int sum1 = 0;
   for (int i=1; i<=n; i++)
    {
      sum1 = sum1 + power(i,i)
                    ---------
                     fact(i)
    }
   return sum1;
}

int fact (int i)
  {
  int mul = 1;
  while (i!=0)
    {
      mul = mul * i--;
    }
  return mul;
}

int main ()  {

  int n = 5;
  printf ("%d", fun1(n));
  return 0;
}
```

5)

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

int main()
{
    int n=1;
    printf("Enter a number : ");
    scanf("%d", &n);
    while (n!=0)
    {
        printf("Enter a number : ");
        scanf("%d", &n);
        for (i=2; i<=a; i++)
        {
            if (n%i==0)  {
                if((n==2) || (n==3) || (n==5) || (n==7))
                    printf("prime number"); }

            if (n%i!=0) {
                    printf("prime number"); }

            else if (n%i==0) {
                    printf("composite number") }

        }
        printf("Enter a number : ");
        scanf("%d", &n);

        return 0;

}
```

6)

```
#include <stdio.h>
#include <conio.h>
#include <stdlib.h>
int main()
{
    int *ptr = (int*) malloc (sizeof(int) * 10);
    printf("Enter the phone numbers:");
    for(int i=0; i<10; i++)
    { scanf("%d", &ptr[i]);
    }
    int *ptr2= (int*) malloc (sizeof(int) *10);
    // Using bubble sort.
    for(int i=0; i<=n; i++)
{
    for(int j=0; j<=n; j++)
    { if ptr[i] > ptr[j]
        swap(ptr[i], ptr[j])
        ptr[
    }
    ptr2[i] = ptr[j];
}
for(int k=n; k<=0; k--) { printf("%d", ptr2[k]);
// printing in reverse
order to get
the sorted answer.
return 0;
}
int swap(int *x, int *y)
{   int temp = *x;
    *x = *y;
}
```