1 . Re-write and show the basic parts in following program . Insert comments while re-write for this purpose.

ANS:

```
#include <stdio.h>  // Needed to perform IO operations

int main() {                    // Program entry point
    printf("Hello, world!\n");  // Says Hello
    return 0;                   // Terminate main()
}                               // End of main()
```

2(a). Write Output?

```
#include <stdio.h>


int main()
{
    char chr;
    int character1,character2;
    printf("enter a character: ");
    scanf("%c", &chr);
    printf("enter integer value of first number: ");
    scanf("%d", &character1);
    printf("enter integer value of next number: ");
    scanf("%d", &character2);
    printf("you entered %c\n & sum of number:%d\n",chr,character1+character2);
    return 0;
}
```

Ans:

```
Character: A
First number : 15
next number:5
Sum of output : 20
```

2(b). What is math.h doing in the following program ? write output of this program ?.

Ans:

The **math.h** header defines various mathematical functions and one macro. All the functions available in this library take **double** as an argument and return **double** as the result.

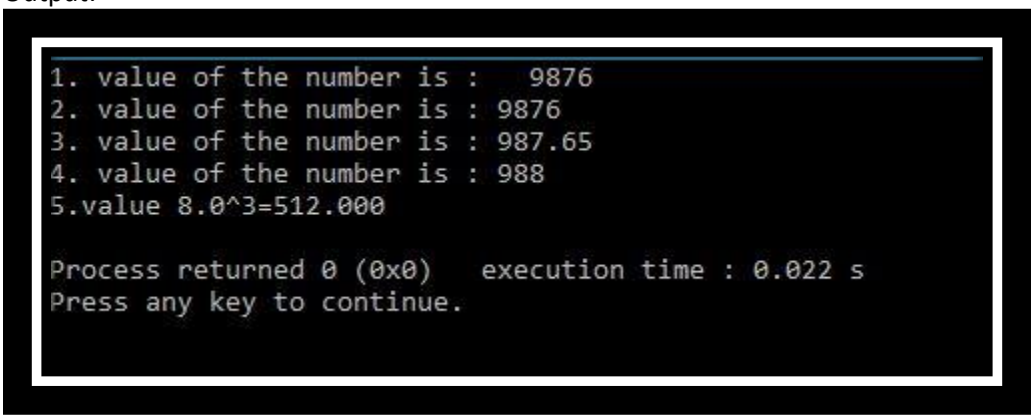
code:

```
#include <stdio.h>
#include<math.h>
int main()
{
   int integer=9876;
   float decimal=987.6543;

   printf("1. value of the number is : %6d\n",integer);
   printf("2. value of the number is : %3d\n",integer);
   printf("3. value of the number is : %.2f\n",decimal);
   printf("4. value of the number is : %.f\n",987.6543);
   printf("5.value 8.0^3=%.3f\n",pow(8.0,3));

   return 0;
}
```

Output:



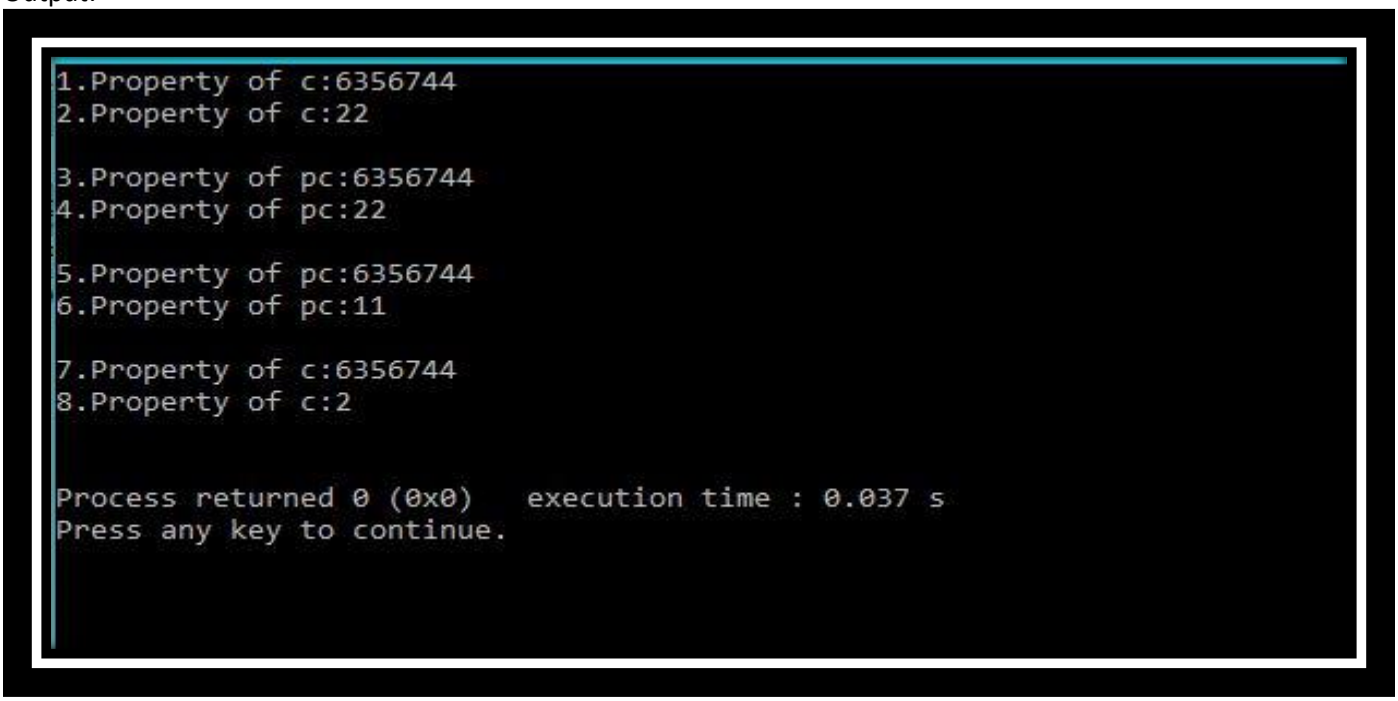
5(a). write output.

```
#include <stdio.h>
int main()
{
   int*pc;
   int c;
   c=22;
```

```
    printf("1.Property of c:%u\n",&c);
    printf("2.Property of c:%d\n\n",c);
    pc=&c;
    printf("3.Property of pc:%u\n",pc);
    printf("4.Property of pc:%d\n\n",*pc);
    c=11;
    printf("5.Property of pc:%u\n",pc);
    printf("6.Property of pc:%d\n\n",*pc);
    *pc=2;
    printf("7.Property of c:%u\n",&c);
    printf("8.Property of c:%d\n\n",c);

    return 0;
}
```

Output:



5(b).
write a program which ask the user to provide an integet number and then it will check whether the given number is a prime number .finally the program will inform the results of the checking to the user.use separete sub-function to collect input user and anothe sub function check prime number.

ANS:

```
#include <stdio.h>
int main()
{
    int n, i, flag = 0;
```

```
   printf("Enter integer number: ");
   scanf("%d", &n);

   for(i = 2; i <= n/2; ++i)
   {
      if(n%i == 0)
      {
         flag = 1;
         break;
      }
   }

   if (n == 1)
   {
     printf("1 is neither a prime nor a composite number.");
   }
   else
   {
      if (flag == 0)
        printf("%d is a prime number.", n);
      else
        printf("%d is not a prime number.", n);
   }

   return 0;
}
```

6. write program:

Ans: I,ii,iii,

```
#include<stdio.h>
main()
{
   int i,size,max,max2,max3,position;
   int TotalMarks,Assignment;
   printf("Enter size to find average of 3 best text marks out of given size\n");
   scanf("%d",&size);
   int a[size],temp[size-1],temp1[size-2];
   printf("Enter numbers in array\n");
   for(i=0;i<size;i++)
   {
      scanf("%d",&a[i]);
   }
   max=a[0];
   position=0;
```

```
for(i=0;i<size;i++)
{
   if(a[i]>max)
   {
      max=a[i];
      position=i;
   }
}
for(i=0;i<size-1;i++)
{
   if(i<position)
   {
      temp[i]=a[i];
   }
   if(i>=position)
   {
    temp[i]=a[i+1];
   }

}
max2=temp[0];
printf("\n");
for(i=0;i<size-1;i++)
{
   if(temp[i]>max2)
   {
      max2=temp[i];

   }
}
for(i=1;i<size-2;i++)
{
   if(i<position)
   {
      temp1[i]=a[i];
   }
   if(i>=position)
   {
    temp1[i]=a[i];
   }
max3=temp1[1];
printf("\n");
for(i=1;i<size-2;i++)
{
   if(temp1[i]>max3)
   {
      max3=temp1[i];
```

```
      }
   }

   printf("Average of 3 best out of %d test marks is %d + %d +
%d/3=%f\n",size,max,max2,max3,((max+max2+max3)/3.0));


}
}
```

iv) :

```
#include <stdio.h>

void main()
{
   float tot, avg,assignment;

   printf("Enter marks number\n");
   scanf("%f%f", &avg, &assignment);

   tot = avg+assignment;

   printf("Total marks = %.2f\n", tot);

}
```

7: write a program

ANS: I,ii:

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

double hypotenuse(double x, double y, double z);

int main(void)
{
  int i,j;
   double side1, side2, side3, counter;
   side3 = 1;
   int table[4][3] =
   {

      { 1, 2, 3 },
```

```
    { 4, 5, 6 },
    { 7, 8, 9 },
    { 10, 11, 12 }
  };

  for ( i = 0; i < 4; i++);
  {
    for ( j = 0; j < 3; j++)
    {
      printf("Table [%d] [%d] = %d \n", i, j, table[i][j]);
    }
  }


  for (counter = 0; counter <= 2; counter++) {
    printf("Enter values for two sides: ");
    scanf("%lf %lf", &side1, &side2);

    printf("%.2f\n", hypotenuse(side1, side2, side3));
  }

  return 0;
}

double hypotenuse(double x, double y, double z) {
  x *= x;
  y *= y;
  z = sqrt(x + y);

  return z;
}
```

8. write program:
ANS:

```
#include<stdio.h>
#include<conio.h>
void creation();
void deposit();
void withdraw();
void lowbal();
int a=0,i = 1001;
struct bank
{
        int no;
        char name[20];
        float bal;
        float dep;
}s[100];
```

```
    int main()
   {
    int ch;
    do
    {
       printf("\n*********************");
        printf("\n BANKING ");
        printf("\n*********************");
        printf("\n1. Create New Account");
        printf("\n2. Cash Deposit ");
        printf("\n3. Cash Withdraw");
        printf("\n4. Low Balance Enquiry");
        printf("\n5. Exit");
        printf("\nEnter your choice : ");
        scanf("%d",&ch);
        switch(ch)
        {
          case 1: creation();
             break;
          case 2: deposit();
              break;
          case 3: withdraw();
             break;
          case 4: lowbal();
             break;
         case 5:
                    break;
            defalut: printf("Choice a Valid option !!");
        getch();
        }
    }while(ch!=5);
  }



void creation()
    {
    printf("\n************************************");
    printf("\n NEW ACCOUNT CREATION ");
    printf("\n************************************");
    printf("\nYour Account Number is :%d",i);
    s[a].no = i;
    printf("\nEnter your Name: ");
    scanf("%s",s[a].name);
    printf("\nYour Deposit is Minimum Rs.500");
    s[a].dep=500;
    a++;
    i++;
    getch();
    }

void deposit()
```

```
{
    int no,b=0,m=0;
    float aa;
    printf("\n************************************");
    printf("\n CASH DEPOSIT ");
    printf("\n************************************");
    printf("\nEnter your Account Number : ");
    scanf("%d",&no);
    for(b=0;b<i;b++)
    {
       if(s[b].no == no)
       m = b;
    }
    if(s[m].no == no)
    {
    printf("\n Account Number : %d",s[m].no);
    printf("\n Name : %s",s[m].name);
    printf("\n Deposit : %f",s[m].dep);
    printf("\n Deposited Amount : ");
    scanf("%f",&aa);
    s[m].dep+=aa;
    printf("\nThe Balance in Account is :%f",s[m].dep);
    getch();
    }
    else
    {
    printf("\nACCOUNT NUMBER IS INVALID");
    getch();
    }
}

void withdraw()
     {
    int no,b=0,m=0;
    float aa;
    printf("\n************************************");
    printf("\n CASH WITHDRAW ");
    printf("\n************************************");
    printf("\nEnter your Account Number : ");
    scanf("%d",&no);
    for(b=0;b<i;b++)
    {
       if(s[b].no == no)
       m = b;
    }
    if(s[m].no == no)
         {
            printf("\n Account Number : %d",s[m].no);
           printf("\n Name : %s",s[m].name);
            printf("\n Deposit : %f",s[m].dep);
            printf("\n Withdraw Amount : ");
            scanf("%f",&aa);
```

```
                if(s[m].dep<aa+500)
                    {
                         printf("\nCANNOT WITHDRAW YOUR ACCOUNT HAS
MINIMUM BALANCE");
                       getch();
                     }
                else
                    {
                   s[m].dep-=aa;
                   printf("\nThe Balance Amount in Account
is:%f",s[m].dep);
                     }
             }
             else
             {
               printf("INVALID");
               getch();
             }
             getch();
          }
    void lowbal()
          {
                   int no,b=0,m=0;
                   float aa;
                   printf("\n************************************");
                   printf("\n FOLLOWING ACCOUNT HOLDER'S BALANCE IS
LESS THAN 1000 ");
                   printf("\n************************************");
                   for(b=0;b<a;b++)

                   {
                     if(s[b].dep<1000)
                     {
                         printf("\n\n Account Number : %d",s[b].no);
                         printf("\n Name : %s",s[b].name);
                     }

             }
           }
```

4. write a program

ANS:

```
#include <stdio.h>

#define MAX_SIZE 100

int main()
```

```
{
   int arr[MAX_SIZE];
   int i, max, min, size;


   printf("Enter size of the array: ");
   scanf("%d", &size);


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



   max = arr[0];
   min = arr[0];


   for(i=1; i<size; i++)
   {

      if(arr[i] > max)
      {
         max = arr[i];
      }


      if(arr[i] < min)
      {
         min = arr[i];
      }
   }


   printf("Maximum element = %d\n", max);
   printf("Minimum element = %d", min);

   return 0;
}
```

3(b).
ANS:

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

```
#include<conio.h>

void main()

{

float f1,f2,f;

printf("\n\tEnter first floating point value : ");

scanf("%f",&f1);

printf("\n\tEnter second floating point value : ");

scanf("%f",&f2);

f=f1+f2;

printf("\n\n\tAddition of two floating point value : %f",f);

getch();

}
```