UNIT - 4

QUESTION - 2

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Programiz C Online Compiler

Learn C App

main.c   Run   Output   Clear

```c
1  #include <stdio.h>
2  int main() {
3      char c;
4      printf("Enter a character: ");
5      scanf("%c", &c);
6      printf("ASCII value of %c = %d", c, c);
7      // %d displays the integer value of a character
8      // %c displays the actual character
9      return 0;
10 }
```

```
/tmp/B8tjn30aB4.o
Enter a character: R
ASCII value of R = 82
```

34°C
Cloudy

ENG
IN

13:50
18-06-2022

QUESTION - 3

Programiz C Online Compiler

Learn C App

main.c

Run

Output

Clear

```c
1  #include <stdio.h>
2  #include <math.h>
3  void PrimeFactors(int n){
4      while (n % 2 == 0) {
5          printf("%d ", 2);
6          n = n / 2;
7      }
8      for (int i = 3; i <= sqrt(n); i = i + 2) {
9          while (n % i == 0) {
10             printf("%d ", i);
11             n = n / i;
12         }
13     }
14     if (n > 2)
15         printf("%d ", n);
16 }
17 int main(){
18     int n;
19     printf("Input the value of n :");
20     scanf("%d",&n);
21     PrimeFactors(n);
22     return 0;
23 }
```

```
/tmp/B8tjn30aB4.o
Input the value of n :315
3 3 5 7
```

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IN

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18-06-2022

QUESTION - 4

main.c

Run

Output

Clear

```c
1  #include<stdio.h>
2  int main()
3  {
4      int *p,a[5],n,max,i;
5      printf("\n Enter N:");
6      scanf("%d",&n);
7      p=a;
8      for(i=0;i<n;i++)
9      {
10         printf("\n Value at a[%d]:",i);
11         scanf("%d",(p+i));
12     }
13     max=*p;
14     for(i=1;i<n;i++)
15     {
16         if(*(p+i)>max)
17             max=*(p+i);
18     }
19     printf("\n Greatest=%d",max);
20     return 0;
21 }
```

```
/tmp/B8tjn30aB4.o
Enter N:5
Value at a[0]:3
Value at a[1]:9
Value at a[2]:4
Value at a[3]:2
Value at a[4]:8
Greatest=9
```

QUESTION - 5

main.c

Run

Output

Clear

```c
1   #include <stdio.h>
2   void sort(int n, int* ptr){
3       int i, j, t;
4       for (i = 0; i < n; i++) {
5           for (j = i + 1; j < n; j++) {
6               if (*(ptr + j) < *(ptr + i)) {
7                   t = *(ptr + i);
8                   *(ptr + i) = *(ptr + j);
9                   *(ptr + j) = t;
10              }
11          }
12      }
13      for (i = 0; i < n; i++)
14          printf("%d ", *(ptr + i));
15  }
16  int main()
17  {
18      int n = 7;
19      int arr[] = { 0, 20, 17, 32, 7, 19, 77 };
20      printf("Sorted list : ");
21      sort(n, arr);
22      return 0;
23  }
```

```
/tmp/B8tjn30aB4.o
Sorted list : 0 7 17 19 20 32 77
```

QUESTION - 7

Programiz C Online Compiler

Learn C App

main.c   Run   Output   Clear

```
1   #include <stdio.h>
2   int checkPrimeNumber(int n);
3   int main(){
4       int i=2,j=0 ,flag;
5   while(j!=10){
6           flag = checkPrimeNumber(i);
7           if(flag == 1)
8           {
9               j++;
10              printf("%d ",i);
11      }
12      i++;
13      }
14      return 0;
15  }
16  int checkPrimeNumber(int n){
17      int j, flag = 1;
18      for(j=2; j <= n/2; ++j)
19      {
20          if (n%j == 0)
21          {
22              flag =0;
23              break;
24          }
25      }
```

Output:
```
/tmp/B8tjn30aB4.o
2 3 5 7 11 13 17 19 23 29
```

QUESTION - 8

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Programiz C Online Compiler

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main.c   Clear   Run   Output

```c
1  #include<stdio.h>
2  int main()
3  {
4    int n1=0,n2=1,n3,i,number;
5    printf("Enter the number of elements:");
6    scanf("%d",&number);
7    printf("\n%d %d",n1,n2);
8    for(i=2;i<number;++i)
9    {
10     n3=n1+n2;
11     printf(" %d",n3);
12     n1=n2;
13     n2=n3;
14   }
15     return 0;
16   }
```

```
/tmp/B8tjn30aB4.o
Enter the number of elements:17
0 1 1 2 3 5 8 13 21 34 55 89 144 233 377 610 987
```

QUESTION - 9

```c
#include<stdio.h>
#include<math.h>
void main (){
  float a[20], sum1 = 0, sum2 = 0, mean, var, dev;
  int i, n;
  printf ("Enter no of elements:");
  scanf ("%d", &n);
  printf ("Enter array elements:");
  for (i = 0; i < n; i++){
    scanf ("%f", a + i);
    sum1 = sum1 + * (a + i);
  }
  mean = sum1 / n;
  for (i = 0; i < n; i++){
    sum2 = sum2 + pow ((*(a + i) - mean), 2);
  }
  var = sum2 / n;
  dev = sqrt (var);
  printf ("Sum      :%f\n", sum1);
  printf ("Mean     :%f\n", mean);
  printf ("Variance :%f\n", var);
  printf ("Deviation :%f\n", dev);
}
```

Output

```
/tmp/q1UZ9Kkunw.o
Enter no of elements:5
Enter array elements:1 2 3 4 5
Sum       :15.000000
Mean      :3.000000
Variance  :2.000000
Deviation :1.414214
```

QUESTION - 10 & 11

```c
#include <stdio.h>
int main()
{
    char str[100];
    char *p;
    int  vCount=0,cCount=0;
    printf("Enter any string: ");
    fgets(str, 100, stdin);
    p=str;
    while(*p!='\0')
    {
        if(*p=='A' ||*p=='E' ||*p=='I' ||*p=='O' ||*p=='U'
             ||*p=='a' ||*p=='e' ||*p=='i' ||*p=='o' ||*p=='u')
          vCount++;
        else
          cCount++;
        p++;
    }
    printf("Number of Vowels in String: %d\n",vCount);
    printf("Number of Consonants in String: %d",cCount);
    return 0;
}
```

Output

```
/tmp/q1UZ9Kkunw.o
Enter any string: sunflower
Number of Vowels in String: 3
Number of Consonants in String: 7
```

QUESTION - 12(a)


```c
#include<stdio.h>
int main()
{
    int num;
    printf("Enter any number to store in 'num' variable: ");
    scanf("%d", &num);
    printf("\nValue of num = %d", num);
    printf("\nAddress of num = %u", &num);
    return 0;
}
```

Output:

```
/tmp/q1UZ9Kkunw.o
Enter any number to store in 'num' variable: 5
Value of num = 5
Address of num = 1270132932
```

QUESTION - 12(b)

```c
#include <stdio.h>
int main() {
    int a;
    int *pt;
    printf("Pointer Example Program : Print Pointer Address\n");
    a = 10;
    pt = &a;
    printf("\n[a  ]:Value of A = %d", a);
    printf("\n[*pt]:Value of A = %d", *pt);
    printf("\n[&a ]:Address of A = %p", &a);
    printf("\n[pt ]:Address of A = %p", pt);
    printf("\n[&pt]:Address of pt = %p", &pt);
    printf("\n[pt ]:Value of pt = %p", pt);
    return 0;
}
```

Output:

```
/tmp/q1UZ9Kkunw.o
Pointer Example Program : Print Pointer Address

[a  ]:Value of A = 10
[*pt]:Value of A = 10
[&a ]:Address of A = 0x7ffe10dde3bc
[pt ]:Address of A = 0x7ffe10dde3bc
[&pt]:Address of pt = 0x7ffe10dde3c0
[pt ]:Value of pt = 0x7ffe10dde3bc
```

QUESTION - 14

main.c

Run

Output

Clear

```c
#include<stdio.h>
int main(){
    int no1,no2;
    int *ptr1,*ptr2;
    int sum,sub,mult;
    float div,mod;
    printf("Enter number1 : ");
    scanf("%d",&no1);
    printf("Enter number2 : ");
    scanf("%d",&no2);
    ptr1 = &no1;
    ptr2 = &no2;
    sum = (*ptr1) + (*ptr2);
    sub = (*ptr1) - (*ptr2);
    mult = (*ptr1) * (*ptr2);
    div = (*ptr1) / (*ptr2);
    mod = (*ptr1) % (*ptr2);
    printf("sum= %d\n",sum);
    printf("subtraction= %d\n",sub);
    printf("Multiplication= %d\n",mult);
    printf("Division= %f\n",div);
    printf("Modulous= %f\n",mod);
    return 0;
}
```

```
/tmp/q1UZ9Kkunw.o
Enter number1 : 53
Enter number2 : 7
sum= 60
subtraction= 46
Multiplication= 371
Division= 7.000000
Modulous= 4.000000
```

QUESTION - 16

```c
#include <stdio.h>
int isEven(int num){
    return !(num & 1);
}
int main(){
    int num;
    printf("Enter any number: ");
    scanf("%d", &num);
    if(isEven(num))
    {
        printf("The number is even.");
    }
    else
    {
        printf("The number is odd.");
    }
    return 0;
}
```

Output

```
/tmp/q1UZ9Kkunw.o
Enter any number: 57
The number is odd.
```

QUESTION - 19

main.c

Run

Output

Clear

```c
1   #include<stdio.h>
2 - void main(){
3     int car=10,bus=20,tw=5,noofhours,fine=0;
4     char n;
5     printf("Please enter vehicle details as c-car b-bus and t-two wheeler : ");
6     scanf("%c",&n);
7     printf("Please enter no of hours : ");
8     scanf("%d",&noofhours);
9     if(n=='c')
10 - {
11    fine=car*noofhours;
12    }
13    else if(n=='b')
14 - {
15    fine=bus*noofhours;
16    }
17    else if(n=='tw')
18 - {
19    fine=tw*noofhours;
20    }
21    printf("%d",fine);
22    return 0;
23  }
```

```
/tmp/q1UZ9Kkunw.o
Please enter vehicle details as c-car b-bus and t-two wheeler : c
Please enter no of hours : 13
130
```

UNIT - 5

QUESTION - 7

```c
#include <stdio.h>
struct student {
    char firstName[50];
    int roll;
    float marks;
} s[5];
int main() {
    int i;
    printf("Enter information of students:\n");
    for (i = 0; i < 5; ++i) {
        s[i].roll = i + 1;
        printf("\nFor roll number%d,\n", s[i].roll);
        printf("Enter first name: ");
        scanf("%s", s[i].firstName);
        printf("Enter marks: ");
        scanf("%f", &s[i].marks);
    }
    printf("Displaying Information:\n\n");
    for (i = 0; i < 5; ++i) {
        printf("\nRoll number: %d\n", i + 1);
        printf("First name: ");
        puts(s[i].firstName);
        printf("Marks: %.1f", s[i].marks);
        printf("\n");
    }
    return 0;
}
```

Output

```
/tmp/7SeDsQ3ja1.o
Enter information of students:

For roll number1,
Enter first name: Rohith
Enter marks: 98
For roll number2,
Enter first name: Ben
Enter marks: 87
For roll number3,
Enter first name: Tom
Enter marks: 76
For roll number4,
Enter first name: Jerry
Enter marks: 69
For roll number5,
Enter first name: Cherry
Enter marks: 54
Displaying Information:


Roll number: 1
First name: Rohith
Marks: 98.0

Roll number: 2
First name: Ben
Marks: 87.0
```

QUESTION - 6

Programiz C Online Compiler

Learn C App

main.c   Run   Output   Clear

```
1  #include <stdio.h>
2  struct Distance {
3      int feet;
4      float inch;
5  } d1, d2, result;
6  int main() {
7      printf("Enter 1st distance\n");
8      printf("Enter feet: ");
9      scanf("%d", &d1.feet);
10     printf("Enter inch: ");
11     scanf("%f", &d1.inch);
12     printf("\nEnter 2nd distance\n");
13     printf("Enter feet: ");
14     scanf("%d", &d2.feet);
15     printf("Enter inch: ");
16     scanf("%f", &d2.inch);
17     result.feet = d1.feet + d2.feet;
18     result.inch = d1.inch + d2.inch;
19     while (result.inch >= 12.0) {
20        result.inch = result.inch - 12.0;
21        ++result.feet;
22     }
```

Output:
```
/tmp/DRFENrtt2v.o
Enter 1st distance
Enter feet: 23
Enter inch: 8.6
Enter 2nd distance
Enter feet: 34
Enter inch: 2.4
Sum of distances = 57'-11.0"
```

filename.txt   Show all   ✕
27/51 B

34°C
Cloudy

ENG
IN
16:41
18-06-2022