ASSIGNMENT 2

Q1. WAP to increase every student mark by 5 & then print the updated array.

**CODE-**

#include <stdio.h>

int main()

{

int i;

float sum, a[10];

printf("Enter 10 marks in array-\n");

for(i=0;i<10;i++)

{ scanf("%f",&a[i]); }

for(i=0;i<10;i++)

{ sum+=a[i];}

printf("The sum of marks in array is \n %f",sum);

return 0;

}

**OUTPUT-**

A screenshot of a computer

Description automatically generated

Q2. WAP to print grade of students as per their marks given in an array. (>=75-- A  
grade, 74 to 60--B Grade, 59 to 40--C grade below 40--D grade).

**CODE-**

#include <stdio.h>

int main()

{

int i, a[5];

printf("Enter 5 marks in array-\n");

for(i=0;i<5;i++)

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

printf("The Grades are- \n");

for(i=0;i<5;i++)

{ switch(a[i])

{ case 0.. 39: printf("Grade D\n"); break;

case 40.. 59: printf("Grade C\n"); break;

case 60.. 74: printf("Grade B\n"); break;

case 75.. 100: printf("Grade A\n"); break;

default: printf("ERROR");

}}

return 0;

}

**OUTPUT-**

A screenshot of a computer program

Description automatically generated  
  
Q3. WAP to find who scored first “99” in an array marks.

**CODE-**

#include <stdio.h>

int main()

{

int i;

float a[6];

char b[6][20];

printf("Enter the elements of array\n");

for(i=0;i<6;i++)

{printf("Name-");

scanf("%s",&b[i]);

printf("Marks-");

scanf("%f",&a[i]); }

for(i=0;i<6;i++)

{if(a[i]==99)

{printf("The first person who scored 99 is %s",b[i]);

break;}}

return 0;

}

**OUTPUT-**

A screenshot of a computer program

Description automatically generated  
  
Q4. WAP to find Who & how many students have scored 99 in an array Marks.

**CODE-**

#include <stdio.h>

int main()

{

int i,count=0;

float a[6];

char b[6][20];

printf("Enter the elements of array\n");

for(i=0;i<6;i++)

{printf("Name-");

scanf("%s",&b[i]);

printf("Marks-");

scanf("%f",&a[i]); }

for(i=0;i<6;i++)

{if(a[i]==99)

{printf("The person who scored 99 is %s\n",b[i]);

count++;

}}

printf("%d scored 99 marks",count);

return 0;

}

**OUTPUT-**

**A screenshot of a computer

Description automatically generated**

Q5. WAP to find sum of all scores in Marks array.

**CODE-**

#include <stdio.h>

int main()

{

int i;

float sum, a[10];

printf("Enter 10 marks in array-\n");

for(i=0;i<10;i++)

{ scanf("%f",&a[i]); }

for(i=0;i<10;i++)

{ sum+=a[i];}

printf("The sum of marks in array is \n %f",sum);

return 0;

}

**OUTPUT-**

A screenshot of a computer

Description automatically generated

Q6. WAP to find average score of the Marks array.

**CODE-**

#include <stdio.h>

int main()

{

int i;

float sum, avg,a[5];

printf("Enter 5 marks in array-\n");

for(i=0;i<5;i++)

{ scanf("%f",&a[i]); }

for(i=0;i<5;i++)

{ sum+=a[i];}

avg=sum/5;

printf("The average of marks in array is \n %f",avg);

return 0;

}

**OUTPUT-**

A screenshot of a computer

Description automatically generated

Q7. WAP to check whether score is even or odd in an array.

**CODE-**

#include <stdio.h>

int main()

{

int i, a[5];

printf("Enter 5 scores in array-\n");

for(i=0;i<5;i++)

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

for(i=0;i<5;i++)

{ if(a[i]%2==0)

{printf("The score is even\n");}

else

{printf("The score is odd\n"); }

}

return 0;

}

**OUTPUT-**

A screenshot of a computer

Description automatically generated

Q8. WAP to find maximum & minimum score in the Marks array.

**CODE-**

#include <stdio.h>

int main()

{

int i, min, max=1, Marks[5];

printf("Enter 5 scores in array-\n");

for(i=0;i<5;i++)

{ scanf("%d", &Marks[i]); }

min-max=Marks[0];

for(i=0;i<5;i++)

{ if(Marks[i]<min)

{min=Marks[i];}

else if( Marks[i]>max)

{max=Marks[i];}

}

printf("The minimum score is- %d\n",min);

printf("The maximum score is %d\n",max);

return 0;

}

**OUTPUT-**

A screenshot of a computer

Description automatically generated

Q9. WAP to find a peak element which is not smaller than its neighbors.

**CODE-**

#include <stdio.h>

int main()

{

int i,a[10];

printf("Enter 10 elements of array\n");

for(i=0;i<10;i++)

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

printf("The array is-\n");

for(i=0;i<10;i++)

{ printf("%d ",a[i]); }

printf("\n The peak elements are-\n");

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

{ if(a[i]>a[i+1] && a[i]>a[i-1])

{printf("%d ",a[i]); }

}

return 0;

}

**OUTPUT-**

A screenshot of a computer program

Description automatically generated

Q10. WAP to count prime numbers in an array.

**CODE-**

#include <stdio.h>

int main()

{

int i,j,a[6],count,n=0;

printf("Enter the elements of array-\n");

for(i=0;i<6;i++)

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

for(i=0;i<6;i++)

{count=0;

for(j=2;j<=a[i]/2;j++)

if(a[i]%j==0)

{count++; }

if(a[i]>1 && count==0)

{printf("The number is a prime number\n");

n++;}

else

{printf("The number is not a prime number\n"); }}

printf("There are %d prime numbers",n);

return 0;

}

**OUTPUT-**

A screenshot of a computer

Description automatically generated

Q11. WAP to implement Insert -Front, any position in between & end in an array. Print  
the array before insert & after insert.

**CODE-**

#include <stdio.h>

int main()

{ int i,n,x,a[6];

printf("Enter 6 elements of array\n");

for(i=0;i<6;i++)

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

printf("The initial array is-\n");

for(i=0;i<6;i++)

{printf("%d ",a[i]); }

printf("Enter the index you want to insert the element at and the element\n");

scanf("%d %d",&n,&x);

if(n==0)

{ for(i=5;i>=0;i--)

{a[i+1]=a[i]; }

a[0]=x;

for(i=0;i<=6;i++)

{printf("%d ",a[i]); } }

else if(n>0 && n<5)

{for (i=6;i>n;i--)

{a[i] = a[i-1]; }

a[n]=x;

for(i=0;i<=6;i++)

{printf("%d ",a[i]); } }

else if(n==5)

{a[6]=x;

for(i=0;i<7;i++)

{ printf("%d ",a[i]); } }

else

{printf("Enter a valid index");}

return 0;

}

**OUTPUT-**

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A screenshot of a computer program

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Q12. WAP to implement delete-Front, any position in between & end in an array. Print  
the array before delete & after delete.

**CODE-**

#include <stdio.h>

int main() {

int n, i, a[6];

printf("Enter 6 elements of array\n");

for (i = 0; i < 6; i++) {

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

}

printf("The initial array is-\n");

for (i = 0; i < 6; i++) {

printf("%d ", a[i]);

}

printf("Enter the index you want to delete from\n");

scanf("%d", &n);

if (n == 0) {

for (i = 0; i < 6; i++) {

a[i - 1] = a[i];

}

for (i = 0; i < 5; i++) {

printf("%d ", a[i]);

}

} else if (n > 0 && n < 5) {

for (i = 0; i < n; i++) {

printf("%d ", a[i]);

}

for (i = (n + 1); i < 6; i++) {

a[i - 1] = a[i];

printf("%d ", a[i]);

}

} else if (n == 5) {

for (i = 0; i < 5; i++) {

printf("%d ", a[i]);

}

} else {

printf("Enter a valid index");

}

return 0;

}

**OUTPUT-**

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Q13. Given an array, the task is to cyclically rotate the array clockwise by one time.  
Examples:  
Input: arr[] = {1, 2, 3, 4, 5}  
Output: arr[] = {5, 1, 2, 3, 4}  
Input: arr[] = {2, 3, 4, 5, 1}  
Output: {1, 2, 3, 4, 5}

**CODE-**

#include <stdio.h>

int main()

{

int i,x,a[6];

printf("Enter 6 elements of array\n");

for (i=0;i<6;i++)

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

x=a[5];

for(i=5;i>=0;i--)

{ a[i]=a[i-1]; }

a[0]=x;

for(i=0;i<6;i++)

{printf("%d ",a[i]);

}

return 0;

}

**OUTPUT-**

A screenshot of a computer

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Q14. Given an array of n integers. The task is to print the duplicates in the given array.  
If there are no duplicates then print -1.  
Examples:  
Input: {2, 10,10, 100, 2, 10, 11,2,11,2}  
Output: 2 10 11  
Input: {5, 40, 1, 40, 100000, 1, 5, 1}  
Output: 5 40 1

**CODE-**

#include <stdio.h>

int main() {

int i,j,a[6],flag=1;

printf("Enter 6 elements of array\n");

for (i=0;i<6;i++)

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

printf("Array: ");

for (i=0;i<6;i++)

{printf("%d ", a[i]); }

printf("\n");

for (i=0;i<6;i++)

{for (j=i+1;j<6;j++)

{if (a[i] == a[j])

{printf("%d is a duplicate\n", a[i]);

flag=0;

break;}}}

if(flag==1)

{printf("-1"); }

return 0;

}

**OUTPUT-**

A screenshot of a computer program

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