

GTU Exam Paper Solution

Questions 2 Marks

1. If a union has a char, a float and a double as data members then find the size of its one variable. Justify answer.

Ans.

Summer 2020

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

union item
{
    int m;
    float x;
    char c;
} code;

int main()
{
    int size= sizeof(code); //variable declarataion
    printf("Size of union variable=%d\n",size);
    return 0;
}
```

Output

Size of union variable=4

The size of a union is the size of its largest field.

2. Give Difference between structure and union.

Summer 2021

Ans.

Struct	Union
<ol style="list-style-type: none"> The struct keyword is used to define a structure. The size of a structure is equal to the sum of the sizes of each data member. Each variable member occupied a unique memory space. Changing the value of a member will not affect other variables members. Each variable member will be assessed at a time. We can initialize multiple members of a structure at a time. It allows accessing and retrieving any data member at a time. 	<ol style="list-style-type: none"> The union keyword is used to define union. The size of a union is equal to the size of its largest data member size. Variable's members share the memory space of the largest size variable. Changing the value of one member will also affect other variables members. Only one variable member will be assessed at a time. In union, only the first data member can be initialized. It allows accessing and retrieving any one data member at a time.

3. Explain TypeDef.

Summer 2021

Ans. Please refer 2.8.2

4. Explain fopen() function with example

Summer 2020

Ans. Please refer 6.8.1

5. Explain fopen() function

Summer 2020 (New)

Ans. Please refer 6.8.1

6. List out File management functions.

Summer 2021

Ans.

Function	Purpose
fopen ()	Creating a file or opening an existing file
fclose ()	Closing a file
fprintf ()	Writing a block of data to a file
fscanf ()	Reading a block data from a file
getc ()	Reads a single character from a file
putc ()	Writes a single character to a file

Questions 3 Marks

1. Explain the reasons to store data into file and not in a variable.

Summer 2020

Ans. We can save processed data forever using files

We cannot save data in variable permanently

We can also later read files to access data

2. Define a structure named Distance with members; feet and inchininteger. Also declare two variables of this type and initialize them.

Summer 2020

Ans.

```
#include <stdio.h>

struct Distance {
    int feet;
    float inch;
} d1, d2;

int main() {
    // take first distance input
    printf("Enter 1st distance\n");
    printf("Enter feet: ");
    scanf("%d", &d1.feet);
    printf("Enter inch: ");
```

```

scanf("%f", &d1.inch);

// take second distance input
printf("\nEnter 2nd distance\n");
printf("Enter feet: ");
scanf("%d", &d2.feet);
printf("Enter inch: ");
scanf("%f", &d2.inch);

return 0;
}

```

3. Discuss the modes to open a file available in C language.

Summer 2020

Ans. Please refer 6.8.1

4. What are the different modes in which a file can be open?

Summer 2020-2

Ans. Please refer 6.8.1

5. Explain Input output operation getc() and putc().

Summer 2021

Ans.

File operation	Declaration & Description
getc()	Declaration: int getc(FILE *fp) getc functions is used to read a character from a file. In a C program, we read a character as below. getc (fp);
putc()	Declaration: int putc(int char, FILE *fp) putc function is used to display a character on standard output or is used to write into a file. In a C program, we can use putc as below. putc(char, stdout); putc(char, fp); :
Example	<pre>#include <stdio.h> int main() { char ch; FILE *fp; if (fp = fopen("test.c", "r")) { ch = getc(fp); while (ch != EOF) { putc(ch, stdout); ch = getc(fp); } fclose(fp); return 0; } return 1; }</pre>

6. Explain Fprintf() and Fscanf().

Summer 2021**Ans.** Please refer **6.8.1****Questions 4 Marks**

1. Explain union with example.

Summer 2021**Ans.** Please refer **6.5**

2. Explain Enum with example.

Summer 2021**Ans.** Please refer **6.1.2**3. Write a program that checks if number is even or not. And if even, store it in even.txt file **Summer 2021****Ans.**

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

int main()
{
    int num;
    char ans[5];
    FILE *pe;

    pe = fopen("even.txt","w+");
    if(pe==NULL)
    {
        printf("Something went wrong!");
        exit(1);
    }
    do
    {
        printf("Enter number:\n");
        scanf("%d",&num);
        if(num%2==0)
        {
            fprintf(pe,"%d\t",num);
        }
        printf("Enter another number? (no to terminate)\n");
        fflush(stdin);
        scanf("%s",ans);
        strlwr(ans);
```

```

}while(strcmp(ans,"no")!=0);

rewind(pe);

printf("\nContent read from even.txt:\n");
while(!feof(pe))
{
fscanf(pe,"%d\t",&num);
printf("%d\t", num);
}
fclose(pe);

printf("\nProgram completed :)");
getch();
return 0;
}

```

Output:

```

Enter number:
4
Enter another number? (no to terminate)
5
Enter number:
6
Enter another number? (no to terminate)
7
Enter number:
8
Enter another number? (no to terminate)
9
Enter number:
no
Enter another number? (no to terminate)
no

Content read from even.txt:
4    6    8    8
Program completed :)

```



