Conversion Character

Conversion	Description	Exam
%c	Ascii	'a'
%d	Decimal	101
%f	Floating	5.50
%s	String	"Hello"

Output

```
printf(("format", var1,var2,..);
Exam        printf("%d\n",number);
            printf("%f\n",grade);
            printf("%c\n",gender);
            printf("%s\n",name);
```

Input

```
scanf("%conv_char ", &var1);
Exam        scanf("%d",&x);
            scanf("%f ", &grade);
            scanf("%c",&gender);
            scanf("%s", name);
gets(string_var);
Exam        gets(data);
```

If/else

```
If(expression)
   statement;
else
   statement;
Exam
if (x % 2 == 0 )
    printf("Even\n");
else
    printf("Odd\n");
```

Switch/case

```
switch (<expression>)
{
   case <expression> :
     <statements>;
     break;
   default:
     <statements>;
     break;
}
Exam
int day;
printf("Input the day");
scanf("%d",&day);
switch(day)
{case 1:
   printf ("Today is Sunday");
   break;
  case 2:
   printf("Today is Monday");
   break;
     :
  default :
   printf ("I don't know");
   break;
}
```

While

```
while (condition) {
   statement-1;
   statement-2;
}
Exam
   int N=1;
   while (N<=3)
   {   printf(" Hello\n");
       N++;
   }
```

do while

```
do{
   statement1;
   statement2;
   statement3;
}while (condition);
Exam
int main() {
  int N = 0;
  do{
    printf("%d \n", N);
    N++;
  }while (N < 3);
}
```

for

```
for ( [initializers]; [condition]; [count] )
    statement;
Exam
int main()
{
  int  i;
  for(i= 1 ; i<= 4; i++)
  {
     printf("Hello\n ");
  }
}
```

Function

```
datatype  F_Name(datatype  arg,..)
 {   type variable;
   statement;
}
Exam
void  circle()
{   int  r, ans;
    scanf("%d", &r);
    ans=(float)22/7 *r*r;
    printf("Answer = %d\n " ,ans);
}
int main()
{
    circle();
    printf(" End program ");
}
```

String Manipulation Functions

```
#include <string.h>
strcmp(s1,s2) เปรียบเทียบ string ว่าค่าใดมีค่า
                มากกว่า
strlen(s1)   วัดความยาวของ string
strcpy(s1,s2)  คัดลอก string s2 ไป string s1
strcat(s1,s2)  เชื่อม string
```

Parameter Passing

Non-parameter passing function

```
#include <stdio.h>
void p1()
{  printf("KU SRC\n");
}
int main()
{ p1();
}
```

Parameter passing function

```
void   name(data type arg, ..)
#include <stdio.h>
void pow(int x)
{  printf("%d\n", x*x);
}
int main()
{ pow(5);
}
```

return value function

```
datatype F_name(datatype name, ...);
float  V_Cylinder(float r, float h)
{  return 22/7*r*r*h;
}
int main()
{
    float r,h,V;
    scanf("%f %f", &r,&h);
    V = V_Cylinder(r,h);
    printf("%f\n",V);
}
```

Array

Array 1 dimension

```
type identifier[size];
type  name[size] ={value, .. };
Exam
int main()
{
   int score[5];
   for(i=0;i<5;i++)
   {
      scanf("%d",&score[i]);
   }
   for(i=1;i<=4;i++)
   {
      printf("%d",score[i]);
   }
}
```

Array 2 dimension

```
type identifier[size][size];
int main()
{
   int  i,j,table[3][4];
   for(i=0; i<3;i++)
   {
      printf("Student {%d} : \n",i+1);
      for(j=0;j<4;j++)
      {
         printf("#%d : ",j+1);
         scanf("%d",&table[i][j] );
      }
   }
   for(i=0; i<3;i++)
   {
      printf("Student {%d} : ",i+1);
      for(j=0;j<4;j++)
         printf("%d ",table[i][j] );
      printf("\n");
   }
}
```

Structure

```
struct sname{
   member declaration;
   member declaration;
};
Exam
struct student
{
   int Id;
   float Grade;
   char Gender;
};
int main()
{
   struct  student std1;
   std1.Id=1;
   std1.Grade=3.10;
   scanf("%c",&std1.Gender);
   printf("Engineering student#1 : %d %.2f
       %c\n", std1.Id,std1.Grade,
       std1.Gender);
}
```